

NOTICES OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY WATER POLLUTION CONTROL

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101.	Definitions
R18-9-102.	Facilities to which the Article does not apply <u>which Articles 1, 2, and 3 Do Not Apply</u>
R18-9-103.	Transition of groundwater quality protection permit program to aquifer protection permit program
<u>R18-9-103.</u>	<u>Class Exemptions</u>
R18-9-104.	Transition: Temporary Cessation, Closure, Post-closure <u>from Notices of Disposal and Groundwater Quality Protection Permitted Facilities</u>
R18-9-105.	Class Exemptions
R18-9-105.	<u>Continuance and Transition of Permits</u>
R18-9-106.	<u>Determination of Applicability</u>
R18-9-107.	Individual permits: Application process
<u>R18-9-107.</u>	<u>Consolidation of Aquifer Protection Permits</u>
R18-9-108.	Individual permits: Application requirements
<u>R18-9-108.</u>	<u>Public Notice</u>
R18-9-109.	Special provisions: Recharge and underground storage and recovery
R18-9-109.	<u>Public Participation</u>
R18-9-110.	Individual permit conditions: Alert levels
<u>R18-9-110.</u>	<u>Inspections, Violations, and Enforcement</u>
R18-9-111.	Individual permit conditions: Discharge limitations <u>Repealed</u>
R18-9-112.	Individual permit conditions: Monitoring requirements <u>Repealed</u>
R18-9-113.	Individual permit conditions: Reporting requirements <u>Repealed</u>
R18-9-114.	Individual permit conditions: Contingency plan requirements <u>Repealed</u>
R18-9-115.	Individual permit conditions: Compliance schedule <u>Repealed</u>
R18-9-116.	Individual permit conditions: Temporary cessation, closure, post-closure <u>Repealed</u>
R18-9-117.	Individual permit conditions: Technical and financial capability <u>Repealed</u>
R18-9-118.	Individual permit duration <u>Repealed</u>
R18-9-119.	Temporary permits <u>Repealed</u>
R18-9-121.	Individual permits: Permit actions <u>Repealed</u>
R18-9-122.	Consolidation of individual permits <u>Repealed</u>
R18-9-124.	Public participation <u>Repealed</u>
R18-9-125.	General permits: General provisions <u>Repealed</u>
R18-9-126.	General permits: Sewage disposal systems <u>Repealed</u>
R18-9-127.	General permits: Recharge pilot projects and underground storage and recovery pilot projects <u>Repealed</u>
R18-9-129.	General permits: Other facilities <u>Repealed</u>
R18-9-130.	Violations; Enforcement <u>Repealed</u>
Appendix I	<u>Average Daily Sewage Flow</u>

ARTICLE 2. AQUIFER PROTECTION PERMITS - INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201.	<u>Application</u>
R18-9-A202.	<u>Technical Requirements</u>
R18-9-A203.	<u>Financial Requirements</u>
<u>R18-9-A204.</u>	<u>Contingency Plan</u>
<u>R18-9-A205.</u>	<u>Alert Levels and Discharge Limitations</u>
<u>R18-9-A206.</u>	<u>Monitoring Requirements</u>
<u>R18-9-A207.</u>	<u>Reporting Requirements</u>
<u>R18-9-A208.</u>	<u>Compliance Schedule</u>
<u>R18-9-A209.</u>	<u>Temporary Cessation, Closure, Post-closure</u>
<u>R18-9-A210.</u>	<u>Temporary Individual Permit</u>
<u>R18-9-A211.</u>	<u>Permit Amendments</u>
<u>R18-9-A212.</u>	<u>Permit Transfer</u>

R18-9-A213. Permit Suspension, Revocation, or Denial

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

R18-9-B202. Application Requirements

R18-9-B203. Application Review and Approval

R18-9-B204. Treatment Performance Requirements For New Facilities

R18-9-B205. Treatment Performance Requirements for Existing Facility

R18-9-B206. Treatment Performance Requirements for Expansion of a Permitted Facility

ARTICLE 3. AQUIFER PROTECTION PERMITS - GENERAL PERMITS

PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

R18-9-A302. Point of Compliance

R18-9-A303. Permit Renewal

R18-9-A304. Notice of Transfer

R18-9-A305. Facility Expansion

R18-9-A306. Closure

R18-9-A307. Permit Revocation

R18-9-A308. Violations and Enforcement For On-site Wastewater Treatment Facilities

R18-9-A309. General Provisions For Type 4 General Permits Concerning On-site Wastewater Treatment Systems

R18-9-A310. Site Investigation For On-site Wastewater Treatment Facilities

R18-9-A311. Facility Selection For On-site Wastewater Treatment Facilities

R18-9-A312. Facility Design For On-site Wastewater Treatment Facilities

R18-9-A313. Facility Installation and Operation and Maintenance Plan For On-site Wastewater Treatment Facilities

R18-9-A314. Septic Tank Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

R18-9-A315. Interceptor Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

R18-9-A316. Transfer Inspection For On-site Wastewater Treatment Facilities

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

R18-9-D304. 3.04 General Permit: Non-storm Water Impoundments at Mining Sites

R18-9-D305. 3.05 General Permit: Disposal Wetlands

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

R18-9-E302. 4.02 General Permit: Septic Tank With Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less than 3000 Gallons Per Day Daily Flow

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Daily Flow

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Daily Flow

Notices of Final Rulemaking

<u>R18-9-E311.</u>	<u>4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E312.</u>	<u>4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E313.</u>	<u>4.13 General Permit: RUCK® System, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E314.</u>	<u>4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E315.</u>	<u>4.15 General Permit: Aerobic System With Subsurface Disposal, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E316.</u>	<u>4.16 General Permit: Aerobic System With Surface Disposal, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E317.</u>	<u>4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Daily Flow</u>
<u>R18-9-E318.</u>	<u>4.18 General Permit: Constructed Wetlands, Less Than 3000 Gallons Per Day Design Flow</u>
<u>R18-9-E319.</u>	<u>4.19 General Permit: Sand Lined Trench, Less Than 3000 Gallons Per Day Design Flow</u>
<u>R18-9-E320.</u>	<u>4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow</u>
<u>R18-9-E321.</u>	<u>4.21 General Permit: Sequencing Batch Reactor, Less Than 3000 Gallons Per Day Design Flow</u>
<u>R18-9-E322.</u>	<u>4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow</u>
<u>R18-9-E323.</u>	<u>4.23 General Permit: 3000 to Less Than 24,000 Gallons Per Day Design Flow</u>
<u>Table 1</u>	<u>Unit Daily Design Flows</u>

ARTICLE 2. 4. AGRICULTURAL GENERAL PERMITS

R18-9-201 <u>R18-9-401.</u>	<u>Definitions</u>
R18-9-202 <u>R18-9-402.</u>	<u>Agricultural general permits: nitrogen fertilizers General Permits: Nitrogen Fertilizers</u>
R18-9-203 <u>R18-9-403.</u>	<u>Agricultural general permits: concentrated animal feeding operations General Permits: Concentrated Animal Feeding Operations</u>

ARTICLE 8. SEWERAGE SYSTEMS REPEALED

R18-9-801.	Legal authority <u>Repealed</u>
R18-9-802.	Definitions <u>Repealed</u>
R18-9-803.	General considerations <u>Repealed</u>
R18-9-804.	Approval of plans required <u>Repealed</u>
R18-9-805.	Final approval of construction <u>Repealed</u>
R18-9-806.	Minimum requirements for sewage systems <u>Repealed</u>
R18-9-807.	Preliminary plans <u>Repealed</u>
R18-9-808.	Operation <u>Repealed</u>
R18-9-809.	Inspection <u>Repealed</u>
R18-9-810.	Cross connections <u>Repealed</u>
R18-9-811.	Separation of water and sewer mains <u>Repealed</u>
R18-9-812.	Tests and records <u>Repealed</u>
R18-9-813.	Approval required <u>Repealed</u>
R18-9-814.	Limitations to discharges to wells <u>Repealed</u>
R18-9-815.	Discharge to creviced formation prohibited <u>Repealed</u>
R18-9-816.	Discharge of sewage from water craft prohibited <u>Repealed</u>
R18-9-817.	Acceptable toilets for water craft <u>Repealed</u>
R18-9-818.	Dockside facilities <u>Repealed</u>
R18-9-819.	Violations <u>Repealed</u>

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101. Definitions

~~In addition to the definitions prescribed in A.R.S. §§ 49-101 and 49-201, the terms of this Article shall have the following meanings:~~ In addition to the definitions established in A.R.S. § 49-201, the following terms apply to Articles 1, 2, and 3 of this Chapter:

1. "Aggregate" means a clean graded hard rock, volcanic rock, or gravel of uniform size, 3/4 inch to 2 1/2 inches in diameter, offering 30% or more void space, washed or prepared to be free of fine materials that will impair absorption surface performance, and has a hardness value of three or greater on the Moh's Scale of Hardness (can scratch a copper penny).
2. "Alert level" means a numeric value, expressing either a concentration of a pollutant or a physical or chemical property of a pollutant, which that is established in an individual Aquifer Protection Permit permit and which serves as an early warning indicating a potential violation of either an Aquifer Water Quality Standard at the applicable point of compliance; or any a permit condition.
3. "Aquifer Protection Permit" means an individual or general permit issued pursuant to under A.R.S. §§ 49-203, 49-241 through 49-251, 49-252, and this Article Articles 1, 2, and 3 of this Chapter.
4. "Aquifer Water Quality Standard" means a standard established pursuant to under A.R.S. §§ 49-221 and 49-223.

Arizona Administrative Register
Notices of Final Rulemaking

- ~~5.4.~~ “BADCT” means the best available demonstrated control technology, ~~processes process~~, operating ~~methods method~~, or other ~~alternatives alternative~~ to achieve the greatest degree of discharge reduction determined for a facility by the Director pursuant to under A.R.S. § 49-243 ~~(B) and (D)~~.
6. “Daily flow rate” means the average daily flow calculated for the month that has the highest total flow during a calendar year.
- ~~5.~~ “Discharge density” means ~~the volume of effluent discharged per unit of time, per unit area of land available to assimilate the discharge. This shall be expressed in gallons per day per acre or in pounds of nitrogen per day per acre.~~
7. “Design capacity” means the volume of a containment feature at a discharging facility that accommodates all permitted flows and meets all Aquifer Protection Permit conditions, including allowances for appropriate peaking and safety factors to ensure sustained reliable operation.
8. “Design flow” means the daily flow rate a facility is designed to accommodate on a sustained basis while satisfying all permit discharge limitations and treatment and operational requirements. The design flow incorporates peaking and safety factors to ensure sustained, reliable operation.
9. “Direct reuse site” means an area where reclaimed water is applied or impounded.
10. “Disposal works” means the system for disposing of treated wastewater generated by the treatment works of a sewage treatment facility or on-site wastewater treatment facility, by surface or subsurface methods.
- ~~11.6.~~ “Drywell” ~~has the meaning ascribed to it in A.R.S. § 49-331(3).~~ “Drywell” means a well which is a bored, drilled or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water. Drywells do not include class 1, class 2, class 3 or class 4 injection wells as defined by the Federal Underground Injection Control Program (P.L. 93-523, part C), as amended. A.R.S. § 49-331(3)
12. “Final permit determination” means a written notification to the applicant of the Director’s final decision whether to issue or deny an Aquifer Protection Permit.
- ~~13.7.~~ “Groundwater Quality Protection Permit” means a permit issued by the Arizona Department of Health Services or the Department pursuant to R9-20-208 prior to the effective date of this Article. before September 27, 1989 that regulates the discharge of pollutants that may affect groundwater.
- ~~8.~~ “Inert material” means ~~that which is insoluble in water and will not decompose or leach substances to water, such as broken concrete, brick, rock, gravel, sand, and uncontaminated soils.~~
- ~~14.9.~~ “Injection well” means a well that receives a discharge through pressure injection or gravity flow.
15. “Intermediate stockpile” means an accumulation of in-process material not intended for long term storage and in transit from one process to another at the mining site. Intermediate stockpile does not include metallic ore concentrate stockpiles or feedstocks not originating at the mining site.
16. “Mining site” means a site assigned one or more of the following primary Standard Industrial Classification Codes: 10, 12, 14, 32, and 33, and includes noncontiguous properties owned or operated by the same person and connected by a right-of-way controlled by that person to which the public is not allowed access.
- ~~17.10.~~ “Notice of Disposal (NOD)” means a document submitted pursuant to R9-20-205 (A) prior to the effective date of this Article to the Arizona Department of Health Services or the Department before September 27, 1989, giving notification of the discharge of pollutants that may affect groundwater.
18. “On-site wastewater treatment facility” means a conventional septic tank system or alternative system installed at a site to treat and dispose of wastewater, predominantly of human origin, generated at that site. An on-site wastewater treatment facility does not include a pre-fabricated, manufactured treatment works that typically uses an activated sludge unit process and has a design flow of 3000 gallons per day or more.
19. “Operational life” means the designed or planned useful period during which a facility remains operational while continuing to be subject to permit conditions, including closure requirements. Operational life does not include post closure activities.
20. “Pilot project” means a short term, limited scale test designed to gain information regarding site conditions, project feasibility, or application of a new technology.
21. “Process solution” means a pregnant leach solution, barren solution, raffinate, and other solutions uniquely associated with the mining or metals recovery process.
- ~~11.~~ “Recharge project” has the meaning ascribed to it in A.R.S. § 45-651(5).
22. “Residential soil remediation level” means the applicable predetermined standard established in 18 A.A.C. 7, Article 2, Appendix A.
23. “Setback” means a minimum horizontal distance maintained between a feature of a discharging facility and a potential point of impact.
- ~~24.12.~~ “Sewage” means untreated wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures in places of human habitation, employment, or recreation.
25. “Sewage collection system” means a system of pipelines, conduits, manholes, pumping stations, force mains, and all other structures, devices, and appurtenances that collect, contain, and conduct sewage from its sources to the entry of a sewage treatment facility or on-site wastewater treatment facility serving sources other than a single residence.

Arizona Administrative Register
Notices of Final Rulemaking

13. "Sewage disposal system" means a system for sewage collection, treatment, and discharge by surface or underground methods.
26. "Sewage treatment facility" means a plant or system for sewage treatment and disposal, except an on-site wastewater treatment facility, that consists of treatment works, disposal works, and appurtenant pipelines, conduits, pumping stations, and related subsystems and devices.
27. 14. "Surface impoundment" means a pit, pond, or lagoon, having with a surface dimension that is equal to or greater than its depth, that is and used for the storage, holding, settling, treatment, or discharge of liquid pollutants or pollutants containing free liquids.
15. "Temporary cessation" means any cessation of operation of a facility for a period of greater than 60 days but which is not intended to be permanent.
16. "Underground storage and recovery project" has the meaning ascribed to it in A.R.S. § 45-802.6.
28. "Tracer" means a substance, such as a dye or other chemical, used to change the characteristic of water or some other fluid to detect movement.
29. "Tracer study" means a test conducted using a tracer to measure the flow velocity, hydraulic conductivity, flow direction, hydrodynamic dispersion, partitioning coefficient, or other property of a hydrologic system.
30. "Typical sewage" means sewage in which the total suspended solids (TSS) content does not exceed 430 mg/l, the five-day biochemical oxygen demand (BOD) does not exceed 380 mg/l, and the content of fats, oils, and greases (FOG) does not exceed 75 mg/l.
31. "Underground storage facility" means a constructed underground storage facility or a managed underground storage facility. A.R.S. § 45-802.01 (20).
32. "Waters of the United States" means:
- a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
 - b. All interstate waters, including interstate wetlands;
 - c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any waters:
 - i. That are or could be used by interstate or foreign travelers for recreational or other purposes;
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. That are used or could be used for industrial purposes by industries in interstate commerce;
 - d. All impoundments of waters defined as waters of the United States under this definition;
 - e. Tributaries of waters identified in subsections (32)(a) through (32)(d);
 - f. The territorial sea; and
 - g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in subsections (32)(a) through (32)(f).

R18-9-102. Facilities to which ~~the Article does not apply~~ Articles 1, 2, and 3 Do Not Apply

This Article shall not apply to any of the following: Articles 1, 2, and 3 do not apply to:

- ~~A.~~ 1. Drywells which are used solely to receive storm runoff, except those that drain areas in which hazardous substances are used, stored, loaded, or treated. A drywell used solely to receive storm runoff and located so that no use, storage, loading, or treating of hazardous substances occurs in the drainage area;
- ~~B.~~ The application of nitrogen fertilizers.
- ~~C.~~ Animal feeding operations.
- ~~D.~~ Activities conducted pursuant to a remedial action order issued or a plan approved pursuant to A.R.S. §§ 49-281 through 49-287, and A.A.C. R18-7-101 through R18-7-110.
- ~~E.~~ 2. Any use of pesticides directly A direct pesticide application in the commercial production of plants and animals which is subject to the Federal Insecticide, Fungicide and Rodenticide Act, (P.L. 92-516; 86 Stat. 975; 7 United States Code 135 et seq., as amended), or A.R.S. §§ 49-301 through 49-309 and the applicable rules adopted thereunder, or A.R.S. Title 3, Chapter 2, Article 6 of the Arizona Revised Statutes and the applicable rules adopted thereunder.

R18-9-103. Transition of groundwater quality protection permit program to aquifer protection permit program

- ~~A.~~ Subject to the other provisions of this section, a Groundwater Quality Protection Permit issued pursuant to R9-20-201 through R9-20-226 before the effective date of this Article is continued according to the terms of the permit.
- ~~B.~~ An owner or operator of a facility for which a Groundwater Quality Protection Permit has been issued shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3, of the Arizona Revised Statutes if both of the following conditions are met:
- 1. The owner or operator is in compliance with the conditions of the Groundwater Quality Protection Permit.
 - 2. The owner or operator is not causing or contributing to the violation of any Aquifer Water Quality Standard.

Notices of Final Rulemaking

- ~~C.~~ An owner or operator of a facility for which a notice of disposal as required by R9-20-205 has been filed shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes if the owner or operator is not causing or contributing to the violation of any Aquifer Water Quality Standard.
- ~~D.~~ An owner or operator of a facility which is in existence on the effective date of this Article, which was exempted by R9-20-202B.) before the effective date of this Article, and which is neither exempted under A.R.S. § 49-250(B) or R18-9-105 nor is issued a general permit under this Article, shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes if the person submits the information described in R18-9-108(A) and (B)(1) through (4) within 90 days after the effective date of this Article.
- ~~E.~~ Subsections (B), (C) and (D) shall apply to a person until either of the following occurs:
 1. The owner or operator are issued an Aquifer Protection Permit.
 2. The owner or operator are denied an Aquifer Protection Permit.
- ~~F.~~ The Department shall be notified by the transferor and the transferee of any change in the owner or operator of a facility subject to subsections (B), (C) or (D) within ten days after the change occurs. The notice shall include the name of the transferor owner or operator, the name of the transferee owner or operator, and the name and location of the facility.
- ~~G.~~ The Department shall maintain a priority list indicating the order in which the facilities subject to subsections (A), (B), (C) and (D) shall be requested to submit permit applications pursuant to R18-9-107. The list shall be available to the public upon request. The list shall be based upon the potential environmental risks to the aquifers of the state and upon the risks to public health posed by the facilities, as determined upon consideration of the following:
 1. The general vulnerability of the aquifer in terms of depth to groundwater and productivity of the aquifer.
 2. Existing aquifer water quality.
 3. The drinking water population potentially affected.
 4. The waste hazard potential of the facility.
 5. The existence of documented pollution problems attributable to the facility.
 6. The status of the facility under R9-20-201 through R9-20-226.
- ~~H.~~ A person who has an application for a Groundwater Quality Protection Permit pending on the effective date of this Section shall become subject to this Article and shall be issued an individual Aquifer Protection Permit if a permit is issued.

R18-9-103. Class Exemptions

Class exemptions. In addition to the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the Aquifer Protection Permit requirements of Articles 1, 2, and 3 of this Chapter.

1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et. seq., as amended), or have been issued a permit according to the hazardous waste management rules adopted under A.R.S. § 49-922;
2. Underground storage tanks that contain a regulated substance as defined in A.R.S. § 49-1001;
3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from four or fewer households;
4. Land application of biosolids in compliance with 18 A.A.C. 13, Article 15.

R18-9-104. Transition: ~~Temporary cessation, closure, post-closure~~ from Notices of Disposal and Groundwater Quality Protection Permitted Facilities

- ~~A.~~ A person who has filed a notice of disposal as required by R9-20-205 filed a Notice of Disposal or received a Groundwater Quality Protection Permit shall notify the ~~Director~~ Department before any ~~temporary~~ cessation. The Director shall specify any ~~measures~~ measure to be taken by the person ~~in order to prevent a violations~~ violation of an Aquifer Water Quality Standards Standard at the ~~applicable~~ point of compliance, determined by the criteria established in A.R.S. § 49-244.
- ~~B.~~ A person who has filed a notice of disposal as required by R9-20-205 and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit, under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and Articles 1-3 of this Chapter shall submit an application for an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of The Arizona Revised Statutes and this Article if there is a cessation, for a period of at least three years, of the activity for which a facility or portion of a facility was designed and operated.
A person who owns or operated a facility, for which a Notice of Disposal was filed or a Groundwater Quality Protection Permit was issued, or who owns or operates a facility required to obtain an Aquifer Protection Permit shall, within 90 days from the date on the Director's notification, submit an application for an Aquifer Protection Permit or a closure plan as specified under A.R.S. § 49-252.
- ~~C.~~ A person who has filed a notice of disposal as required by R18-9-205 and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and Articles 1 through 3 of this shall notify the Department of the intent to permanently cease operations prior to ceasing an activity for which the facility or a portion of the facility was designed or operated.

Arizona Administrative Register
Notices of Final Rulemaking

- ~~D.~~ A person who has filed a notice of disposal as required by R9-20-205 who ceases, without intending to resume, an activity for which a facility or portion of a facility was designed and operated, or who is deemed subject to the closure requirements of this Section pursuant to subsection (B), and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and this Article shall submit to the Director an application for an individual Aquifer Protection Permit within 90 days following the notification.

~~R18-9-105. Class Exemptions~~

- ~~A.~~ In addition to the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the permit requirements of Articles 1 through 4 of this Chapter:
- ~~1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et. seq., as amended), or have been issued a permit according to the rules adopted under A.R.S. § 49-922.~~
 - ~~2. Underground storage tanks that contain regulated substances as defined in A.R.S. § 49-1001,~~
 - ~~3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from 4 or fewer households.~~
 - ~~4. Land application of biosolids in compliance with 18 A.A.C. 13, Article 15.~~

R18-9-105. Continuance and Transition of Permits

A. Continuance.

1. Groundwater Quality Protection Permits.
 - a. Subject to the other provisions of this Section, a Groundwater Quality Protection Permit issued before September 27, 1989 is valid according to the terms of the permit.
 - b. A person who owns or operates a facility to which a Groundwater Quality Protection Permit was issued is in compliance with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3, if the person:
 - i. Meets the conditions of the Groundwater Quality Protection Permit; and
 - ii. Is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
2. Notice of Disposal. A person who owns or operates a facility for which a Notice of Disposal was filed before September 27, 1989 complies with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3 if the facility is not causing or contributing to the violation of an Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
3. Aquifer Protection Permit application submittal. A person who did not file a Notice of Disposal and does not possess a Groundwater Quality Protection Permit or an Aquifer Protection Permit for an existing facility, but submitted the information required in applicable rules before December 27, 1989, is in compliance with Articles 1, 2, and 3 of this Chapter only if the person submitted an Aquifer Protection Permit application to the Department before January 1, 2001.

B. Applicability. Subsection (A) applies until the Director:

1. Issues an Aquifer Protection Permit for the facility,
2. Denies an Aquifer Protection Permit for the facility, or
3. Issues a letter of clean closure approval for the facility under A.R.S. § 49-252.

C. Transition.

1. From individual permit to general permit.
 - a. To qualify for a general permit established in Article 3, an owner or operator of a facility who applied for or was issued an individual permit before January 1, 2001, or who operates a facility described in subsection (A) shall submit the information required by Article 3 and adhere to all applicable general permit conditions.
 - b. The facility's individual permit is valid and enforceable until the date the Department receives Notification of Intent to Discharge, or until the date the Director issues a written Verification of General Permit Conformance, if required.
 - c. If the Director does not provide the required verification, the facility's individual permit remains valid and enforceable until its stated date of expiration, if any.
2. Approvals to Construct.
 - a. Any Approval to Construct a sewerage system issued under 18 A.A.C. 9, Article 8 before January 1, 2001 is valid until its stated date of expiration.
 - b. The Department shall accept the Approval to Construct instead of the design report requirements specified in R18-9-B202(A) if the individual permit application is in process on January 1, 2001.
 - c. The Director shall provide a Verification of General Permit Conformance under R18-9-A301(D), for an on-site wastewater treatment facility with a flow of less than 20,000 gallons per day if the facility is constructed according to the specifications in the Approval to Construct.

Arizona Administrative Register
Notices of Final Rulemaking

D. Monitoring. The Director may amend an individual permit to incorporate monitoring requirements to ensure that reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.

R18-9-106. Determination of applicability ~~Applicability~~

- A. ~~Any~~ A person who engages or who intends to engage in an operation or an activity ~~which that~~ may result in a discharge ~~which is regulated under this Article~~ Articles 1, 2, and 3 of this Chapter may submit a request on a form provided by the Department that the Department determine the applicability of A.R.S. §§ 49-241 through ~~49-251~~ 49-252 and ~~this Article~~ Articles 1, 2, and 3 of this Chapter to the operation or activity.
- B. A person requesting a determination of applicability shall provide the following information:
1. The name of the operation or activity;
 2. The location of the operation or activity;
 3. The names of the persons who are engaging or who propose to engage in the operation or activity;
 4. A description of the operation or activity;
 5. A description of the volume, chemical composition, and characteristics of materials stored, handled, used, or disposed of in the operation or activity; and
 6. Any other information required by the Director to make the determination of applicability.
- C. Within 45 days after receipt of a request for a determination of applicability, the ~~Department~~ Director shall ~~advise~~ notify in writing the person making the request that the operation or activity is ~~described by any one of the following:~~
1. Is not subject to the requirements of A.R.S. §§ 49-241 through ~~49-251~~ 49-252 and ~~this Article~~ Articles 1, 2, and 3 of this Chapter because the operation or facility does not discharge as described ~~by~~ under A.R.S. § 49-241;
 2. Is not subject to the requirements of A.R.S. §§ 49-241 through ~~49-251~~ 49-252 and ~~this Article~~ Articles 1, 2, and 3 of this Chapter because the operation or activity is exempted by A.R.S. § 49-250 or ~~R18-9-107~~ R18-9-103;
 3. Is ~~subject to the eligible for a general permit requirements of~~ under A.R.S. §§ 49-241 through ~~49-251~~ 49-252 and ~~this Article~~ Articles 1, 2, and 3 of this Chapter, specifying the particular general permit that applies, provided the person meets the conditions of the general permit; or
 4. Is subject to the ~~individual~~ permit requirements of A.R.S. §§ 49-241 through ~~49-251~~ 49-252 and ~~this Article~~ Articles 1, 2, and 3 of this Chapter.
- D. If, after issuing a determination of applicability under this Section, the Department concludes that its determination ~~of applicability~~ or the information relied upon for a determination ~~of applicability~~ is inaccurate, the Department may modify or withdraw its determination ~~after~~ upon written notice to the person who requested the determination of applicability.

~~R18-9-107. Individual permits: Application process~~

- ~~A. Any person who owns or operates a facility that discharges shall obtain an individual Aquifer Protection Permit, unless the facility is subject to a general permit issued by this Article, or is exempted by either A.R.S. § 49-250(B) or R18-9-105. A person who is required to obtain an individual Aquifer Protection Permit and who is not subject to R18-9-103(A) and (B), (C) or (D) shall not discharge after the effective date of this Article without an individual Aquifer Protection Permit.~~
- ~~B. A person who is required to obtain an individual Aquifer Protection Permit shall submit a permit application to the Department according to the following:~~
- ~~1. For a new facility for which the owner or operator is not subject to R18-9-103(A) and (B), (C) or (D), not later than 180 days before the date on which the facility is expected to begin discharging.~~
 - ~~2. For a new facility for which the owner or operator is subject to R18-9-103(A) and (B), (C) or (D), within 90 days after receipt of a written request from the Director.~~
 - ~~3. For an existing facility, within 90 days after receipt of a written request from the Director.~~
- ~~C. In the case of a permit application to be submitted at the request of the Director, the Director may establish a permit application schedule upon the request of the applicant if the applicant can show that more time is needed to gather and compile data as required by R18-9-108. A permit application schedule established by the Director shall require the submission of information as expeditiously as is practicable. If a permit application schedule provides that actions be taken during a period that exceeds 90 days after the date of receipt of a written request for the submission of an application, the schedule shall set forth interim requirements and the dates for their achievement. If the time necessary for completion of any interim requirements is more than six months and is not readily divisible into stages for completion, the schedule shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date. Within 30 days after a date specified in a permit application schedule, an applicant shall submit to the Department a report indicating whether the action or actions to be taken as of that date were taken.~~
- ~~D. Upon request by the applicant, the Department shall schedule and hold a preapplication conference with an applicant to discuss any of the requirements of this Article. In addition, an applicant may submit to the Department for review and comment a proposal for meeting any of the informational requirements of this Article. The Department shall comment on the proposal within 30 days after receipt of the proposal.~~

Arizona Administrative Register
Notices of Final Rulemaking

- ~~E.~~ Within 30 days after receipt of an application for an individual Aquifer Protection Permit, the Director shall notify the applicant in writing whether the application is complete. If the application is incomplete, the notification shall include a listing of additional information which is required to process the application and a time for the submission of the additional information. Within 20 days of receipt of the resubmitted application, the Director shall determine if the resubmitted application is complete.
- ~~F.~~ Within 90 days after receipt of a complete application, the Director shall notify the applicant, in writing and by certified mail, of the preliminary decision either to deny the application or to issue an individual Aquifer Protection Permit. If, during this 90-day period, the Director determines there to be technical deficiencies in the application, the Director immediately shall give the applicant written notification of these deficiencies and give the applicant an opportunity to cure the deficiencies. The number of days between notification of the applicant and the submission of additional information or a response by the applicant shall not be included within the 90 days allowed the Director for notification of the applicant of the Director's decision to deny an application or to issue an individual Aquifer Protection Permit.
- ~~G.~~ At its earliest opportunity, the Department shall make available to the applicant a copy of the draft of the individual Aquifer Protection Permit.
- ~~H.~~ Within 30 days after the notification of the applicant required by subsection (F), the Director, in accordance with R18-1-401 and R18-9-124, shall cause to be published a notice of the preliminary decision to issue or deny an individual Aquifer Protection Permit.
- ~~I.~~ Within 45 days after the publication of the public notice, a decision whether to conduct a public hearing shall be made by the Department. If a hearing is to be held, the Department shall schedule the hearing to begin on or before 75 days from the close of public comment established in the public notice required by subsection (H). The hearing record shall be closed within seven days after the close of the hearing.
- ~~J.~~ Except as otherwise provided in this subsection, the Director shall issue or deny an individual Aquifer Protection Permit within 30 days after the close of the public comment period established in the public notice required by subsection (H), or, if a public hearing is held, within 45 days after the public hearing record is closed. The Director immediately shall give the applicant written notification of the final decision to issue or deny an individual Aquifer Protection Permit. The Director may extend the final decision deadline for not more than 90 days after the close of the public comment period, or, if a public hearing is held, after the public hearing record is closed, if the Director determines that additional information is required to make the decision whether to issue or deny a permit. The Director shall give the applicant written notification of a decision to extend the final decision deadline.
- ~~K.~~ If an individual Aquifer Protection Permit is denied, the Director shall advise the applicant of the reasons for the decision in writing.

R18-9-107. Consolidation of Aquifer Protection Permits

- ~~A.~~ The Director may consolidate any number of individual or general permits into a single individual permit, if:
 - ~~1.~~ The facilities are part of the same project or operation and are located in a contiguous geographic area, or
 - ~~2.~~ The facilities are part of an area under the jurisdiction of a single political subdivision.
- ~~B.~~ All applicable individual permit requirements established in Articles 1 and 2 of this Chapter apply to the consolidation of Aquifer Protection Permits.

R18-9-108. Individual permits: Application requirements

- ~~A.~~ A person applying for an individual Aquifer Protection Permit shall provide the Director with all of the following information on a form provided by the Department:
 - ~~1.~~ The name and mailing address of the applicant.
 - ~~2.~~ The name and mailing address of the owner of the facility.
 - ~~3.~~ The name and mailing address of the operator of the facility.
 - ~~4.~~ The legal description of the location of the facility.
 - ~~5.~~ Expected operational life of the facility.
 - ~~6.~~ Any other federal or state environmental permits issued to the applicant.
- ~~B.~~ For purposes of this subsection and subsection (C), "known": means that knowledge that the applicant actually has or could reasonably be expected to have. Except as otherwise provided in R18-9-109(A), a person applying for an individual Aquifer Protection Permit shall provide the Director with all of the following information as attachments to the form described in subsection (A):
 - ~~1.~~ Two copies of a topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area, showing the known use of adjacent properties and all known water well locations found within one half mile of the facility, and accompanied by a description of well construction details and well uses, if available.
 - ~~2.~~ Two copies of a facility site plan which shows all known property lines, structures, water wells, injection wells, and drywells and their uses, topography and the location points of discharge. The facility site plan shall also include all known borings unless the Director determines that borings are numerous and that the requirement can be satisfied by a narrative description of the number and location of the borings.

Arizona Administrative Register
Notices of Final Rulemaking

3. Two copies of the facility design plans indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge.
4. A summary of the known past facility discharge activities and the proposed facility discharge activities, indicating all of the following:
 - a. The chemical, biological, and physical characteristics of the discharge.
 - b. The rates, volumes, and frequency of the discharge for each facility.
 - c. The location of the discharge.
5. A description of the BADCT to be employed in the facility. The applicant shall submit in support of the proposed BADCT a statement of the technology which will be employed to meet the requirements of A.R.S. § 49-243(B). This statement shall describe the alternative discharge control measures considered, the technical and economic advantages and disadvantages of each alternative, and the justification for selection or rejection of each alternative. The applicant shall evaluate each alternative discharge control technology, relative to the amount of discharge reduction achievable, site-specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation. The economic impact of implementation of each alternative control technology shall be evaluated on an industry-wide basis. In addition, a statement for a facility in existence on the effective date of this Article shall reflect consideration of the factors listed in A.R.S. § 49-243(B)(1)(a) through (h).
6. A demonstration that the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance. The demonstration shall propose the point or points of compliance for the facility based on A.R.S. § 49-244. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer, the application shall also include a demonstration that no additional degradation of the aquifer, relative to that pollutant and determined at the applicable point of compliance, will occur as a result of the discharge from the proposed facility.
7. A demonstration that the person applying for the individual Aquifer Protection Permit is technically capable of fully carrying out the conditions of the permit. A person applying for an individual Aquifer Protection Permit may make the demonstration required by this subsection by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:
 - a. Any pertinent licenses or certifications held by the person.
 - b. Any professional training relevant to the design, construction, or operation of the facility.
 - c. Any work experience relevant to the design, construction, or operation of the facility.
8. A demonstration that the person applying for the individual Aquifer Protection Permit is financially capable of constructing, operating, closing, and assuring proper post-closure care of the facility in compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, and the conditions of the individual Aquifer Protection Permit. The person applying for an individual Aquifer Protection Permit shall submit all of the following in support of the demonstration of financial capability as described in this paragraph:
 - a. An estimate of the total cost of constructing, operating, closing, and assuring proper post-closure care in compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, and the conditions of the individual Aquifer Protection Permit.
 - b. A statement by the chief financial officer of the applicant that the applicant is financially capable of meeting the costs described in subparagraph (a). The statement shall specify in detail the financial arrangements for meeting the closure and post-closure plans submitted pursuant to paragraph (2) of subsection (C).
 - c. For a person other than a state or federal agency or a county, city, town or other local governmental entity, the demonstration of financial capability shall be further supported by any one of the following:
 - i. The most recent copy of the person's 10K form filed pursuant to section 13 or 15(d) of the Federal Securities and Exchange Act of 1934 (c. 404, Title I; 48 Stat. 894-95; 15 United States Code 78m and 78o, as amended).
 - ii. A report that contains all of the following information:
 - (a) A description of the person's status as a corporation, partnership, or other legal entity.
 - (b) A description of the person's business.
 - (c) An indication of the person's net worth, including a description of major assets and liabilities.
 - (d) A brief description of any judgment exceeding \$100,000.00 rendered against the person during the five years preceding the date of the application.
 - (e) A brief description of any bankruptcy or insolvency proceedings instituted by the person during the five years preceding the date of the application.
 - (f) If the person is a corporation, the names of its executive officers and their dates of birth.
 - iii. Evidence of a bond, insurance, or a trust fund assuring that the applicant will be financially capable of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit.

Arizona Administrative Register
Notices of Final Rulemaking

9. A brief description of any action for the enforcement of any federal or state law, rule or regulation, or any county, city or local government ordinance relating to the protection of the environment, instituted against the person during the five years preceding the date of application.
 10. Evidence that the facility complies with applicable municipal or county zoning ordinances and regulations.
- C.** In addition to the information required by subsections (A) and (B), a person applying for an individual Aquifer Protection Permit shall provide any of the following information which the Director may request if necessary in order to determine whether to issue an individual Aquifer Protection Permit:
1. A hydrogeologic study which defines the discharge impact area for the operational life of the facility and which demonstrates that the facility will not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer, the hydrogeologic study shall also include a demonstration that no additional degradation of the aquifer, relative to that pollutant and determined at the applicable point of compliance, will occur as a result of the discharge of the proposed facility. The hydrogeologic study, upon a request by the Director, shall include any of the following:
 - a. A description of the surface and subsurface geology, including a description of all borings.
 - b. The location of any perennial or ephemeral surface water bodies.
 - c. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity.
 - d. Rates, volumes, and directions of surface water and groundwater flow, including hydrographs, if available, and equipotential maps.
 - e. The location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility.
 - f. A documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis and quality assurance and quality control procedures associated with the documentation.
 - g. A documentation of the extent and degree of any known soil contamination in the vicinity of the facility.
 - h. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials.
 - i. Any anticipated changes in the water quality expected as a result of the discharge.
 - j. A description of any expected changes in the elevation and flow directions of the groundwater that may be caused by the facility.
 - k. A map of the facility's discharge impact area.
 - l. The criteria and methodologies used to determine the discharge impact area.
 - m. The proposed location of each point of compliance.
 2. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, contingency plans, compliance schedules, and temporary closure, closure, and post closure plans which the applicant proposes to satisfy the requirements of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and this Article.
 3. Any other relevant information needed by the Director to determine whether to issue a permit.
- D.** A person applying for an individual Aquifer Protection Permit shall certify in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge.

R18-9-108. Public Notice

A. Individual permits.

1. The Department shall provide the entities specified in subsection (A)(2), monthly written notification of the following:
 - a. Individual permit applications,
 - b. Temporary permit applications,
 - c. Preliminary and final decisions by the Director whether to issue or deny an individual or temporary permit,
 - d. Closure plans received under R18-9-A209(B),
 - e. Significant permit amendments and "other" permit amendments,
 - f. Permit revocations, and
 - g. Clean closure approvals.
2. Entities.
 - a. Each county department of health, environmental services, or comparable department;
 - b. An affected federal, state, local agency, or council of government; and
 - c. A person who requested, in writing, notification of the activities described in subsection (A).
3. The Department may post the information referenced in subsections (A)(1) and (A)(2) on the Department website: www.adeq.state.az.us.

B. General permits. Public notice requirements do not apply.

Arizona Administrative Register
Notices of Final Rulemaking

~~R18-9-109. Special provisions: Recharge and underground storage and recovery~~

- ~~A. A person who is applying for an individual Aquifer Protection Permit for a facility that is a recharge or an underground storage and recovery project shall provide the Director with the information described in R18-9-108(A), (B) and (C), except for that information described in R18-9-108(B)(5).~~
- ~~B. When the Department receives an application for an individual Aquifer Protection Permit for a facility that is a recharge project or an underground storage and recovery project, the Department shall administer the application process described in this Article in coordination with the recharge and underground storage and recovery permit processes administered by the Department of Water Resources. The Department shall advise the Department of Water Resources of each permit application received for an individual Aquifer Protection Permit for a facility that is a recharge project or an underground storage and recovery project.~~

R18-9-109. Public Participation

A. Notice of Preliminary Decision.

- 1. The Department shall publish a Notice of Preliminary Decision regarding the issuance or denial of a significant permit amendment or a final permit determination in one or more newspapers of general circulation where the facility is located.
- 2. The Department shall accept written comments from the public before a significant permit amendment or a final permit determination is made.
- 3. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.

B. Public hearing.

- 1. The Department shall provide notice and conduct a public hearing to address a Notice of Preliminary Decision regarding a significant permit amendment or final permit determination if:
 - a. Significant public interest in a public hearing exists, or
 - b. Significant issues or information have been brought to the attention of the Department that has not been considered previously in the permitting process.
- 2. If, after publication of the Notice of Preliminary Decision, the Department determines that a public hearing is necessary, the Department shall schedule a public hearing and publish the Notice of Preliminary Decision at least once, in one or more newspapers of general circulation where the facility is located.
- 3. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

C. At the same time the Department notifies a permittee of a significant permit amendment or an applicant of the final permit determination, the Department shall send, through regular mail, a notice of the amendment or determination to any person who submitted comments or attended a public hearing on the significant permit amendment or final permit determination.

D. The Department shall respond in writing to all written comments submitted during the written public comment period.

E. General permits. Public participation requirements do not apply.

~~R18-9-110. Individual permit conditions: Alert levels~~

- ~~A. An individual Aquifer Protection Permit shall prescribe an alert level based on the site-specific conditions described by the applicant in the application submitted pursuant to R18-9-108 or otherwise known by the Director.~~
- ~~B. An alert level prescribed in an individual permit may be based on a pollutant which indicates the potential appearance of another pollutant.~~
- ~~C. An individual permit may prescribe the measurement of an alert level at the point of release, the point of compliance, or any intervening point.~~
- ~~D. An individual Aquifer Protection Permit shall require notification of the Department as described by R18-9-113 and the implementation of the appropriate parts of the contingency plan as described in R18-9-114 if an alert level is exceeded.~~

R18-9-110. Inspections, Violations, and Enforcement

A. The Department shall conduct any inspection of a permitted facility as specified under A.R.S. § 41-1009.

B. Except as provided in R18-9-A308, a person who owns or operates a facility contrary to a provision of Articles 1, 2, and 3 of this Chapter, violates a condition of an Aquifer Protection Permit, or violates a Groundwater Quality Protection Permit continued by R18-9-105(A)(1) is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4.

~~R18-9-111. Individual permit conditions: Discharge limitations Repealed~~

- ~~A. An individual Aquifer Protection Permit shall prescribe discharge limitations based on the considerations described in A.R.S. § 49-243(A), (B), (C) and (D).~~
- ~~B. An individual Aquifer Protection Permit shall require notification of the Department as described in R18-9-113 and the implementation of the appropriate parts of a contingency plan as described in R18-9-114 if a discharge limitation is exceeded.~~

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-112. Individual permit conditions: Monitoring requirements Repealed

- A.** An individual Aquifer Protection Permit shall require that the permittee conduct any monitoring activity necessary to assure compliance with any other Aquifer Protection Permit condition, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223, and with A.R.S. § 49-241 through 49-251.
- B.** An individual Aquifer Protection Permit shall specify all of the following:
1. The type and method of monitoring to be conducted.
 2. The frequency of monitoring.
 3. Any requirements for the installation, use, or maintenance of monitoring equipment.
 4. The intervals at which monitoring results shall be reported to the Department.
- C.** An individual Aquifer Protection Permit shall require that a permittee make, for each sample taken or measurement made as required by the individual Aquifer Protection Permit, a monitoring record consisting of all of the following:
1. The date, time, and exact place of a sampling or measurement and the name of each individual who performed the sampling or measuring.
 2. The procedures used to collect the sample or make the measurement.
 3. The date on which sample analysis was completed.
 4. The name of each individual or laboratory who performed the analysis.
 5. The analytical techniques or methods used to perform the sampling and analysis.
 6. The chain of custody records.
 7. Any field notes relating to the information described in Paragraphs (1) through (6).
- D.** An individual Aquifer Protection Permit shall require that a permittee retain or have access to a monitoring record made pursuant to subsection (C) for a period of 10 years after the date of the sample or measurement.

R18-9-113. Individual permit conditions: Reporting requirements Repealed

- A.** An individual Aquifer Protection Permit shall require that a permittee give written notice to the Director 180 calendar days before any major modification to the facility, as described in A.R.S. § 49-201(18).
- B.** Except as otherwise provided in R18-9-114(B), an individual Aquifer Protection Permit shall require that a permittee notify the Director within five days after becoming aware of a violation of a permit condition or that an alert level has been exceeded.
- C.** An individual Aquifer Protection Permit shall require that a permittee submit a written report within 30 days after the permittee becomes aware of the violation of a permit condition. The report shall document all of the following:
1. A description of the violation and its cause.
 2. The period of violation, including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
 3. Any action taken or planned to mitigate the effects of the violation, or to eliminate or prevent recurrence of the violation.
 4. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
 5. Any malfunction or failure of pollution control devices or other equipment or process.
- D.** An individual Aquifer Protection Permit shall require that a permittee shall notify the Director within five days after the occurrence of any one of the following:
1. The filing of bankruptcy by the permittee.
 2. The entry of any order or judgment against the permittee for the enforcement of any environmental protection statute and in which monetary damages or civil penalties are imposed.

R18-9-114. Individual permit conditions: Contingency plan requirements Repealed

- A.** An individual Aquifer Protection Permit shall require that a contingency plan specify, in a manner consistent with this Section, the actions to be taken in the event of a discharge that results in any one of the following:
1. Violation of a permit condition.
 2. Violation of an Aquifer Water Quality Standard.
 3. An alert level having been exceeded.
 4. An imminent and substantial endangerment to the public health or the environment.
- B.** An individual Aquifer Protection Permit shall require that a contingency plan contain all of the following:
1. A plan to provide emergency response on a 24 hour basis in the event that a condition arises which results in an imminent and substantial endangerment to the public health or the environment.
 2. The designation of an emergency response coordinator to be responsible for activation of the contingency plan and emergency response measures.
 3. A requirement that the emergency response coordinator notify the Department immediately in the event that emergency response measures are taken or those portions of a contingency plan that address an imminent and substantial endangerment are activated.

4. A list of names, addresses and telephone numbers of persons to be contacted in the event that an imminent and substantial endangerment to the public health or the environment arises.
5. A general description of the procedures, personnel and equipment to be used to assure appropriate mitigation of unauthorized discharges.
- ~~C.~~ Contingency plans required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 United States Code 1251, et seq., as amended) or the Resource Conservation Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 United States Code 6901 et seq., as amended) may be amended to meet the requirements of this Section and submitted to the Department for approval in lieu of a separate aquifer protection contingency plan.
- ~~D.~~ An individual permit may require that a contingency plan provide for any one or more of the following actions to be taken in the event of a discharge that results in any of the conditions described in subsection (A):
 1. Verification sampling.
 2. Further monitoring.
 3. The submission of reports describing the causes, impacts, or mitigation of the discharge.
 4. Submission of a proposed corrective action plan for approval by the Director as described by this Paragraph. The Director shall approve the proposed corrective action plan if the corrective action plan returns the facility to compliance with the facility's permit conditions, this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes.
- ~~E.~~ A permittee shall maintain at least one copy of the contingency plan required by the individual Aquifer Protection Permit at the location where the day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of copies of the contingency plan.
- ~~F.~~ A permittee shall revise promptly all copies of the contingency plan upon any change in the information contained in the contingency plan.

R18-9-115. Individual permit conditions: Compliance schedule Repealed

- ~~A.~~ A compliance schedule established in an individual Aquifer Protection Permit shall require compliance as expeditiously as is practicable. If a compliance schedule provides that actions be taken during a period that exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement. If the time necessary for completion of any interim requirements is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date. Within 30 days after a date specified in a compliance schedule, a permittee shall submit to the Department a report indicating whether the action or actions to be taken as of that date were taken.
- ~~B.~~ In determining the requirements of and length of a compliance schedule for a facility, the Director shall consider all of the following factors:
 1. The character and impact of the discharge.
 2. The nature of construction or activity required by the permit.
 3. The number of persons affected or potentially affected by the discharge.
 4. The current state of treatment technology.
 5. The age of the facility.
- ~~C.~~ An individual Aquifer Protection Permit shall not establish a compliance schedule for a new facility for which the owner or operator is not subject to R18-9-10(A) and (B) unless the facility will employ BADCT and will not exceed Aquifer Water Quality Standards when the facility begins to discharge. The requirement of this subsection that a facility employ BADCT does not apply to a recharge project or an underground storage and recovery project.

R18-9-116. Individual permit conditions: Temporary cessation, closure, post closure Repealed

- ~~A.~~ An individual Aquifer Protection Permit shall require that the permittee notify the Director before any temporary cessation of operations at the facility. An individual Aquifer Protection Permit shall specify any measures to be taken by the permittee if there is any temporary cessation of operations at a facility.
- ~~B.~~ An individual Aquifer Protection Permit shall require that a permittee notify the Director of the permittee's intent to cease operations prior to ceasing, without intent to resume, an activity for which the facility was designed or operated.
- ~~C.~~ An individual Aquifer Protection Permit shall require that a permittee who ceases, without intending to resume, an activity for which a facility was designed and operated, submit to the Director for approval a closure plan within 90 days following the notification. A closure plan shall describe all of the following:
 1. The approximate quantities and the chemical, biological, and physical characteristics of the materials to be removed from the facility.
 2. The destination of the materials to be removed from the facility and an indication that placement of the materials at that destination is approved.
 3. The approximate quantities and the chemical, biological, and physical characteristics of the materials that will remain at the facility.
 4. The methods to be used to treat any materials remaining at the facility.

Arizona Administrative Register
Notices of Final Rulemaking

5. The methods to be used to control the discharge of pollutants from the facility.
 6. ~~Any limitations on future land or water uses created as a result of the facility's operations or closure activities.~~
 7. The methods to be used to secure the facility.
 8. An estimate of the cost of closure.
 9. A schedule for implementation of the closure plan and the submission of a post-closure plan.
- D.** ~~Within 60 days after receipt of a complete closure plan, the Director shall approve or reject the closure plan. The Director shall approve a closure plan that eliminates, to the greatest extent practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.~~
- E.** An individual Aquifer Protection Permit may prescribe any part of a closure plan submitted pursuant to subsection (C).
- F.** An individual Aquifer Protection Permit shall require that a permittee submit to the Director for approval, and shall adhere to, a post-closure monitoring and maintenance plan for a facility, unless the Director determines that the closure of the facility will eliminate, to the greatest degree practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance. The post-closure plan shall describe all of the following:
1. The duration of post-closure care.
 2. The monitoring procedures to be implemented by the permittee, including monitoring frequency, type, and location.
 3. A description of the operating and maintenance procedures to be implemented for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, and monitoring wells.
 4. A schedule and description of physical inspections to be conducted at the facility following closure.
 5. An estimate of the cost of post-closure maintenance and monitoring.
 6. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations.
- G.** ~~Within 60 days after receipt of complete post closure plan, the Director shall approve or reject the post closure plan. The Director shall approve a post closure plan that eliminates, to the greatest extent practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.~~
- H.** ~~An individual Aquifer Protection Permit may prescribe any part of a post closure plan submitted pursuant to subsection (F).~~
- I.** ~~An individual Aquifer Protection Permit shall require that the permittee give the Department written notice that a closure plan or a post-closure plan has been implemented fully.~~

R18-9-117. Individual permit conditions: Technical and financial capability Repealed

- A.** ~~An individual Aquifer Protection Permit shall require that a permittee have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of the permit.~~
- B.** ~~The Director may establish any of the permit conditions described in R18-9-109 through R18-9-116 on the basis of the Director's evaluation of the permittee's technical or financial capability necessary to carry out the terms and conditions of the individual Aquifer Protection Permit.~~
- C.** ~~An individual Aquifer Protection Permit shall require that a permittee maintain any bond, insurance policy, or trust fund provided under R18-9-108(B)(8)(c)(iii) or R18-9-121(A). A bond, insurance policy, or trust fund required to be maintained under this subsection shall remain in effect for the duration of the permit.~~

R18-9-118. Individual permit duration Repealed

~~Subject to modification or revocation as provided in this Article, and except as otherwise provided in R18-9-119, an individual Aquifer Protection Permit issued under this Article shall be valid for a specified term not to exceed the operational life of the facility and any period during which the facility is subject to a post-closure plan pursuant to R18-9-116(F) through (H).~~

R18-9-119. Temporary permits Repealed

- A.** ~~The Director may waive any or all of the application requirements, the application process, or the individual permit conditions described in this Article in issuing a temporary individual Aquifer Protection Permit to a person for the operation of a facility to be used for the remediation of an accidental discharge of a pollutant.~~
- B.** ~~Subject to the other provisions of this subsection, the Director may postpone any or all of the public notice or public hearing requirements of this Article and issue a temporary individual Aquifer Protection Permit in order to prevent a discharge or if circumstances which could not have been foreseen or controlled by the applicant do not allow the timely preparation and issuance of an individual Aquifer Protection Permit. Public notice shall not be postponed beyond 30 days after the issuance of the temporary individual Aquifer Protection Permit.~~
- C.** ~~A temporary individual Aquifer Protection Permit issued under this Section shall be issued for a period not to exceed one year and shall not be renewed.~~

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-121. Individual permits: Permit actions Repealed

- A.** ~~The Director shall issue an individual Aquifer Protection Permit if the Director determines, based upon the information obtained by or made available to the Department, that the applicant will comply with A.R.S. §§ 49-241 through 49-251 and this Article. The Director may issue an individual Aquifer Protection Permit conditioned upon the applicant providing evidence of a bond, an insurance policy, or a trust fund covering the costs of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit if the Director otherwise would have denied the permit under paragraph (2) of subsection (B) on the basis that the applicant was financially incapable of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit.~~
- B.** ~~The director may deny an individual Aquifer Protection Permit if the Director determines upon completion of the application process described in R18-9-107 and R18-9-108 any one of the following:~~
- ~~1. That the applicant has failed or refused to correct deficiencies in the permit application.~~
 - ~~2. That the applicant has failed to demonstrate that the facility and the operation thereof will comply with the requirements of A.R.S. §§ 49-241 through 49-251 and this Article. This determination shall be based on the information submitted in the Aquifer Protection Permit application, in addition to any information submitted to the Department pursuant to a public hearing, or any relevant information which is otherwise developed or acquired by the Department.~~
 - ~~3. That the applicant has provided false or misleading information to the Department.~~
- C.** ~~The Director may modify an individual Aquifer Protection Permit based upon a request or upon the Director's initiative. A request for permit modification shall be in writing and shall contain the facts and reasons which justify the request. The Director may modify an individual Aquifer Protection Permit if the Director determines any one or more of the following:~~
- ~~1. That material and substantial alterations or additions to a permitted facility justify a change in permit conditions.~~
 - ~~2. That the discharge from the facility violates or could reasonably be expected to violate any Aquifer Water Quality Standard.~~
 - ~~3. That rule or statutory changes have occurred, such as to require a change in the permit.~~
 - ~~4. That there has been a change of an applicable point of compliance.~~
- D.** ~~Notwithstanding subsection (G) and R18-9-124(F), and with the written concurrence of the permittee, the Director may make minor modifications to the individual Aquifer Protection Permit without giving public notice or conducting a public hearing, for any of the following reasons:~~
- ~~1. To correct typographical errors.~~
 - ~~2. To increase the frequency of monitoring or reporting.~~
 - ~~3. To change an interim compliance date in a compliance schedule if the permittee can show just cause and that the new date does not interfere with the attainment of a final compliance date requirement.~~
 - ~~4. To change construction requirements, if the alteration complies with the requirements of this Article and provides equal or better performance.~~
 - ~~5. To replace monitoring equipment, including wells, if such replacement results in equal or greater monitoring effectiveness.~~
- E.** ~~The Director may transfer an individual Aquifer Protection Permit if the Director determines that the proposed transferee will comply with A.R.S. §§ 49-241 through 49-251 and this Article. A permittee is responsible for complying with permit conditions, A.R.S. §§ 49-241 through 49-251, and this Article, regardless of whether the permittee has sold or otherwise disposed of the facility, until the Director transfers a permit pursuant to this subsection.~~
- F.** ~~The Director may suspend or revoke an individual Aquifer Protection Permit or Groundwater Quality Protection Permit, for any of the following reasons:~~
- ~~1. Non-compliance by the permittee with any applicable provision of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, or any permit condition.~~
 - ~~2. The permittee's misrepresentation or omission of any fact, information, or data related to an Aquifer Protection Permit application or permit conditions.~~
 - ~~3. If the Director determines that the permitted activity is causing or may cause a violation of any Aquifer Water Quality Standard.~~
 - ~~4. If a permitted discharge has the potential to cause or will cause imminent and substantial endangerment to public health or the environment.~~
- G.** ~~The Director shall issue a public notice of all proposed permit actions pursuant to R18-9-124.~~

R18-9-122. Consolidation of individual permits Repealed

~~The Director may consolidate into a single document, and may issue as a single permit, any number of individual Aquifer Protection Permits for which any one applicant applies if the facilities for which the permits are sought are part of the same project or operation, if the facilities are located in a contiguous geographic area, and if the applications for the facilities are submitted simultaneously. Under the circumstances described in this Section, the Director may also consolidate those permit conditions that have general applicability to the facilities for which permits are sought.~~

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-124. Public participation Repealed

- A.** On a monthly basis, the Director shall cause to be posted in the offices of each county department of health and each council of governments lists of all applications for individual Aquifer Protection Permits, of the notifications received pursuant to R18-9-116(C), and of the proposed permit actions, received or initiated by the Department during the previous month.
- B.** In addition to the information required to be published in a public notice, any public notice issued under this Article shall include a description of the procedure for 2 copies of particular proposed permit action notices.
- C.** Except as otherwise provided in subsection (G), any written public comment period established in a public notice issued under this Article shall extend for no more than 30 calendar days after the date of the first publication of the public notice.
- D.** Each public notice issued under this Article shall be mailed to the permit applicant, affected federal, state and local agencies, and to persons who have requested, in writing, copies of particular proposed permit action notices.
- E.** If two or more proposed permit actions have similar effective dates and are located in the same vicinity, public notices of the proposed actions may be combined and issued as a single notice.
- F.** The Department shall conduct a public hearing on a proposed permit action if the Director determines either of the following:
 - 1. That significant public interest exists.
 - 2. That significant issues or information have been brought to the attention of the Department which have not been considered previously in the permitting process.
- G.** Public notice of any public hearing held pursuant to this Article shall be made according to R18-1-401 and the public hearing shall be conducted as a general public hearing pursuant to R18-1-402. When a public hearing is conducted, written public comment shall be accepted until the close of the hearing record as specified by the person presiding at the public hearing.
- H.** At the same time that the Department notifies an applicant of the final permit determination, the Department shall send notice of such determination, through regular mail, to affected state and local agencies, and to persons who submitted comments or attended a public hearing on the permit action, or who made written requests to receive the final permit determination.
- I.** The Director shall respond in writing to all written comments submitted during the written public comment period.

R18-9-125. General permits: General provisions Repealed

- A.** The Director may revoke a person's general permit and require the person to obtain an individual Aquifer Protection Permit pursuant to A.R.S. § 49-245(B) and this Article for any of the following reasons:
 - 1. The person has failed to comply with the terms and conditions of the General Permit as described in this Article.
 - 2. The discharge from a facility subject to a General Permit causes or contributes to the violation of an Aquifer Water Quality Standard.
- B.** The Director may revoke a General Permit for all facilities within a specific geographic area if the Director determines that the cumulative effects of the facilities subject to the general permit are such that any water quality standard established pursuant to A.R.S. §§ 49-221 and 49-223 may be violated due to geologic or hydrologic conditions.
- C.** The Director shall notify a permittee, by certified mail, of the Department's decision to revoke a person's General Permit, and of the requirement to apply for an individual Aquifer Protection Permit pursuant to this Article.
- D.** The issuance of a General Permit under this Article, pursuant to A.R.S. § 49-245, does not affect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from a discharge.

R18-9-126. General permits: Sewage disposal systems Repealed

- A.** A General Permit is issued for sewage disposal systems which have flows of less than 2000 gallons per day, which are in compliance with R18-9-801 through R18-9-819, and which receive materials which conform to paragraph (1) of subsection (D).
- B.** A General Permit is issued for sewage disposal systems which have flows greater than or equal to 2000 gallons per day but less than 20,000 gallons per day, which are approved by the Department, the Arizona Department of Health Services, or a county health department pursuant to R18-9-804 and R18-9-805 prior to the effective date of this article and which are in compliance with the provisions of R18-9-804 and R18-9-805.
- C.** A general permit is issued for sewage disposal systems which have flows greater than or equal to 2000 gallons per day but less than 20,000 gallons per day, which are approved pursuant to R18-9-804 and R18-9-805 after the effective date of this Article, and which meet all of the following conditions:
 - 1. The subsurface disposal system is located in a soil which has a percolation rate faster than 60 minutes per inch but not faster than one minute per inch.
 - 2. The discharge density of effluent from the sewage disposal system, when based on the average daily sewage flow figures found in Appendix I, is not greater than:
 - a. 1,200 gallons, or the equivalent of 0.4002 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is 3.0 mg/l or less;
 - b. 800 gallons, or the equivalent of 0.2668 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is greater than 3.0 mg/l and less than or equal to 5.0 mg/l; or

Notices of Final Rulemaking

- e. 400 gallons, or the equivalent of 0.1334 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is greater than 5.0 mg/l and less than or equal to 7.0 mg/l.
- 3. The bottom of subsurface disposal system is at least:
 - a. 40 feet above the static groundwater level where the soil percolation rate is slower than or equal to one minute per inch but faster than two minutes per inch.
 - b. 10 feet above the static groundwater level where the soil percolation rate is slower than or equal to two minutes per inch but faster than 10 minutes per inch.
 - c. 5 feet above the static groundwater level where the soil percolation rate is slower than or equal to 10 minutes per inch.
- D.** The materials received by any sewage disposal system subject to a General Permit issued by this Section shall conform to both of the following:
 - 1. The materials are typical sewage and do not include motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, or other materials not generally associated with toilet flushing, food preparation, laundry and personal hygiene.
 - 2. Commercial operations utilizing hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5), do not dispose of such materials into the system.

R18-9-127. General permits: Recharge pilot projects and underground storage and recovery pilot projects Repealed

- A.** A General Permit is issued for recharge pilot projects and underground storage and recovery pilot projects which meet all of the following conditions:
 - 1. Not more than 10,000 acre feet of water shall be applied or injected at the facility site over a two-year period.
 - 2. Site-specific hydrogeologic data for the development of an individual Aquifer Protection Permit for the project is obtained in the course of operating the facility. This condition is satisfied if the permittee does both of the following:
 - a. Drills, and completes by the end of the first quarter after the first application or injection of water at the facility site, a sufficient number of monitoring wells to adequately assess the impact of the discharge on aquifer water quality.
 - b. Samples quarterly by the monitoring wells described in subparagraph (a).
 - 3. The source water to be used for recharge or underground storage is either of the following:
 - a. Water conveyed by way of the Central Arizona Project Aqueduct or through a natural river drainage system.
 - b. Any water, other than that described in subparagraph (a), which does not violate Aquifer Water Quality Standards or any applicable surface water quality standards, except that water that is not delivered directly to the saturated zone may exceed any standards for bacteria and turbidity.
 - 4. The source water to be used for recharge or underground storage is not effluent dominated water, as defined by R18-11-201(7), at the point of diversion.
 - 5. The point of diversion to the recharge or underground storage and recovery facility is not within five miles downstream from the surface discharge from a wastewater treatment plant.
 - 6. Prior to commencement of operation, the operator notifies the Department of the intent to conduct a pilot recharge project or underground storage and recovery project.
 - 7. Prior to commencement of operation, the operator identifies the information to be collected in coordination with the Department of Water Resources and the Department.
 - 8. The operator holds a permit issued according to Title 45, Chapter 2, Article 13, or Chapter 3, Article 1 of the Arizona Revised Statutes.
 - 9. The project is not located within one-half mile from any hazardous waste landfill, sanitary landfill, any site on the National Priority List under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510; 94 Stat. 2767; 42 United States Code 9601 et seq., as amended), or any known location of a hazardous substance disposal.
- B.** Pilot projects shall be limited to a duration of two years commencing with the first application or injection of water at the facility site. Upon written request, the Department may issue an extension of this time limit, not to exceed one year, if the water to be recharged or stored has not been available to conduct the project.
- C.** Unless an extension described in subsection (B) has been granted, the applicant shall submit to the Department, a closure plan or a notice of intent to apply for an individual permit at least 30 days prior to the end of the time limit prescribed in subsection (B). A notice of intent to apply for an individual Aquifer Protection Permit shall include a schedule for the timely submittal of the permit application.

R18-9-129. General permits: Other facilities Repealed

- A.** A General Permit is issued for the discharge of wash water from sand and gravel operations, and placer mining operations, if only physical processes are employed and no hazardous substances, other than those naturally existing in the sand and gravel or the placer material, have been added or exposed during the processing or removal of the sand and gravel.
- B.** A General Permit is issued for discharges from hydrostatic tests of drinking water distribution systems, and of other pipelines not previously used for the transmission of fluids, if all of the following conditions are met:

Arizona Administrative Register
Notices of Final Rulemaking

1. The quality of the source water does not violate any Aquifer Water Quality Standard.
 2. The discharge is not to a Water of the United States, as defined in 40 CFR 122.2.
 3. The test site is restored to its natural grade.
- C.** A General Permit is issued for discharges from hydrostatic tests of pipelines previously used for transmission of fluids, other than those previously used for drinking water distribution systems, if all of the following conditions are met:
1. All liquid discharged is contained in an impoundment which is lined with flexible geomembrane material having a thickness of at least 10 mils.
 2. The liner material is placed over a layer, at least three inches in thickness, consisting of well-sorted sand or finer grained material, or over an underliner determined by the Director to provide equal or better protection.
 3. Within 60 days after the end of the hydrostatic test, all test waters are evaporated, or removed from the impoundment to a treatment works or landfill approved to accept such material. Other methods for removal of the test waters must have the prior written approval of the Director.
 4. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity.
 5. The test site is restored to its natural grade.
- D.** A General Permit is issued for facilities which, for purposes of water quality sampling, hydrologic parameter testing, well development or redevelopment, receive water, drilling fluids or drill cuttings from a well, if the discharge is to the same aquifer in approximately the same location from which the water supply was withdrawn originally.
- E.** A General Permit is issued for injection wells, surface impoundments, and leach lines receiving discharge from only filter backwash from potable water treatment systems, condensate from refrigeration units, overflows from evaporative coolers, heat exchange system return water, or swimming pool filter backwash, where the discharge is less than 1,000 gallons per day.
- F.** A General Permit is issued for lined evapotranspiration beds receiving sewage which are issued an Approval to Construct pursuant to R18-9-804 and R18-9-805, and which are inspected and leak tested by the Department or its designated representative during construction.
- G.** A General Permit is issued for disposal of material that contains only uncontaminated soil, cement, bricks, or other similar inert material.
- H.** A General Permit is issued to facilities used for transportation of water for beneficial use, or pumped from the groundwater, which contain effluent from any wastewater treatment facility if all of the conditions are met:
1. The effluent is added for the purpose of delivery to a reuse, recharge, or underground storage and recovery facility that has a permit.
 2. The transportation facility is concrete-lined.
 3. The effluent does not exceed any Aquifer Water Quality Standard, except those standards for turbidity and bacteria.
 4. The volumes and rates of effluent added do not exceed that necessary to meet the requirements of the permitted reuse, recharge, or underground storage and recovery facility.
- I.** A general permit is issued for surface impoundments which meet all of the following conditions:
1. The surface impoundments receive only filter backwash from potable water treatment systems.
 2. The surface impoundments are constructed and operated pursuant to R18-4-231 and R18-4-265.
 3. The surface impoundments are lined with a material having a permeability not greater than 1×10^{-6} cm/sec.

R18-9-130. Violations; Enforcement Repealed

Any person who owns or operates a facility contrary to the provisions of this Article, who violates the conditions specified in a permit issued pursuant to this Article, or who violates any Groundwater Protection Permit continued pursuant to R18-9-103(A) is subject to the enforcement actions prescribed in Title 49, Chapter 2, Article 4 of the Arizona Revised Statutes.

Appendix I
Average Daily Sewage Flow

<i>Type of Establishment (unit basis)</i>	<i>Sewage Flow (gallons per unit per day)</i>
Airport (passenger)	4
Apartments, multiple family (resident)	100
1 bedroom, assume 2 residents;	
2 bedrooms, assume 3 residents, etc.	
Camp: Campground, overnight with flush toilets (camper)	25
Campground, overnight with flush toilets and shower (camper)	50
Construction (bed)	50
Day with no meals served (camper)	15
Luxury (camper)	100-150
Resorts, day and night, with limited plumbing (camper)	50
Tourist with central bath and toilet facilities (person)	35

Notices of Final Rulemaking

Clubs:- Country (resident member)	100
Country (nonresident member)	25
Cottages with seasonal occupancy (resident)	100
Dwellings: Boarding of rooming houses (resident)	100
Additional kitchen requirements for nonresidents boarders	10
Dwellings: Residential (resident)	100
Factory (person)	25
Hospital (bed)	250-400
Hotel (room)	125
Institutions other than hospitals (person)	75-125
Laundries, self service (machine)	400
Mobile Home: Family (per resident)	100
Retirement (resident)	75
Motel (room)	125
Office (person)	25
Picnic: With bathhouses, showers & flush toilets (picnicker)	20
With toilet facilities only (picnicker)	10
Public Restrooms (toilet)	200
Restaurant (seat)	30
per meal served	100
Schools: Boarding (pupil)	100
Day with cafeteria, gymnasiums & showers (pupil)	25
Day with cafeteria, but no gymnasiums or showers (pupil)	20
Day without cafeteria, gymnasiums or showers (pupil)	15
Service Station (bay)	1000
Shopping Center (square foot)	1
Swimming pool (swimmer)	10
Theaters: Drive-in (car space)	5
Movie (seat)	5
Trailer Park: (also see mobile home)	
Travel with no sewer connection (space)	125
Travel with sewer connection (space)	175
Organic Loading. Base All Organic Loadings on 200 mg/l BOD% and 210 mg/l SS.	

ARTICLE 2. AQUIFER PROTECTION PERMITS - INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201. Application

A. Individual permit application.

1. A person may submit an individual permit application that covers one or more of the following categories:
 - a. Drywell.
 - b. Industrial.
 - c. Mining.
 - d. Wastewater, or
 - e. Solid waste disposal.
2. The applicant shall provide the Department with:
 - a. The following information on an application form:
 - i. The name and mailing address of the applicant;
 - ii. The social security number of the applicant, if the applicant is an individual;
 - iii. The name and mailing address of the owner of the facility;
 - iv. The name and mailing address of the operator of the facility;
 - v. The legal description of the location of the facility;
 - vi. The expected operational life of the facility; and
 - vii. Any other federal or state environmental permit issued to the applicant.
 - b. A copy of the certificate of disclosure required by A.R.S. § 49-109;
 - c. Evidence that the facility complies with applicable municipal or county zoning ordinances, codes, and regulations;
 - d. Two copies of the technical information required in R18-9-A202(A);
 - e. The financial information required in R18-9-A203;
 - f. The site-specific conditions specified in R18-9-A202;

Arizona Administrative Register
Notices of Final Rulemaking

- [illegible]

R18-9-A202. Technical Requirements

- A.** Except as specified in R18-9-A201(A)(3), an applicant shall submit the following technical information as attachments to the individual permit application:
- 1.** A topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area showing the known use of adjacent properties, all known water well locations found within 1/2 mile of the facility, and a description of well construction details and well uses, if available;
 - 2.** A facility site plan showing all known property lines, structures, water wells, injection wells, drywells and their uses, topography, and the location of points of discharge. The facility site plan shall include all known borings unless the Department determines that borings are numerous and the requirement may be satisfied by a narrative description of the number and location of the borings;
 - 3.** The facility design documents indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge. When formal as-built submittals are not available, the applicant shall provide documentation, sufficient to allow evaluation of those elements of the facility affecting discharge, following the demonstration requirements of A.R.S. § 49-243(B). An applicant seeking an Aquifer Protection Permit for a sewage treatment facility shall submit design documents required in R18-9-B203;
 - 4.** A summary of the known past facility discharge activities and the proposed facility discharge activities indicating all of the following:
 - a.** The chemical, biological, and physical characteristics of the discharge;

Arizona Administrative Register
Notices of Final Rulemaking

- b. The rate, volume, and frequency of the discharge for each facility; and
- c. The location of the discharge.
- 5. A description of the BADCT to be employed in the facility, including:
 - a. A statement of the technology, processes, operating methods, or other alternatives that will be employed to meet the requirements of A.R.S. § 49-243(B), (G), or (P), as applicable. The statement shall describe:
 - i. The alternative discharge control measures considered.
 - ii. The technical and economic advantages and disadvantages of each alternative, and
 - iii. The justification for selection or rejection of each alternative.
 - b. An evaluation of each alternative discharge control technology relative to the amount of discharge reduction achievable, site specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation;
 - c. For a new facility, an industry-wide evaluation of the economic impact of implementation of each alternative control technology;
 - d. For an existing facility, a statement reflecting the consideration of factors listed in A.R.S. §§ 49-243(B)(1)(a) through (B)(1)(h);
 - e. The above requirements do not apply if the Department verifies that a sewage treatment facility meets the BADCT requirements under Article 2, Part B of this Chapter.
- 6. Proposed points of compliance for the facility based on A.R.S. § 49-244. An applicant shall demonstrate that:
 - a. The facility will not cause or contribute to a violation of the Aquifer Water Quality Standards at the proposed point of compliance, or
 - b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance, no additional degradation of the aquifer relative to that pollutant and determined at the proposed point of compliance will occur as a result of the discharge from the proposed facility.
- 7. A contingency plan that meets the requirements of R18-9-A204;
- 8. A hydrogeologic study that defines the discharge impact area for the expected duration of the facility. The Department may allow the applicant to submit an abbreviated hydrogeologic study or, if warranted, no hydrogeologic study, based upon the quantity and characteristics of the pollutants discharged, the methods of disposal, and the site conditions. Information from a previous study of the affected area may be included to meet a requirement of the hydrogeologic study, if the previous study accurately represents current hydrogeologic conditions. The hydrogeologic study shall demonstrate:
 - a. That the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance; or
 - b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance that no additional degradation of the aquifer relative to that pollutant and determined at the applicable point of compliance will occur as a result of the discharge from the proposed facility;
 - c. Based on the quantity and characteristics of pollutants discharged, methods of disposal, and site conditions, the Department may require the applicant to provide:
 - i. A description of the surface and subsurface geology, including a description of all borings;
 - ii. The location of any perennial, intermittent, or ephemeral surface water bodies;
 - iii. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity;
 - iv. Rate, volume, and direction of surface water and groundwater flow, including hydrographs, if available, and equipotential maps;
 - v. The precise location or estimate of the location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility;
 - vi. Documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis, quality assurance, and quality control procedures associated with the documentation;
 - vii. Documentation of the extent and degree of any known soil contamination at the site;
 - viii. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials;
 - ix. Any anticipated changes in the water quality expected because of the discharge;
 - x. A description of any expected changes in the elevation or flow directions of the groundwater that may be caused by the facility;
 - xi. A map of the facility's discharge impact area;
 - xii. The criteria and methodologies used to determine the discharge impact area; or
 - xiii. The proposed location of each point of compliance.

Arizona Administrative Register
Notices of Final Rulemaking

9. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary cessation, closure, and post-closure strategies or plans that the applicant will use to satisfy the requirements of A.R.S. Title 49, Chapter 2, Article 3, and Articles 1 and 2 of this Chapter;
 10. Any other relevant information required by the Department to determine whether to issue a permit.
- B.** An applicant shall demonstrate the ability to maintain the technical capability necessary to carry out the terms of the individual permit, including a demonstration that the facility will be operated by a certified operator if a certified operator is required under 18 A.A.C. 5. An applicant shall make the demonstration by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:
1. Pertinent licenses or certifications held by the person;
 2. Professional training relevant to the design, construction, or operation of the facility; and
 3. Work experience relevant to the design, construction, or operation of the facility.

R18-9-A203. Financial Requirements

- A.** Cost estimates. A person applying for an individual permit shall demonstrate financial capability to construct, operate, close, and assure proper post-closure care of the facility in compliance with A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; and the conditions of the individual permit.
1. The applicant shall submit the following cost estimates:
 - a. Total cost of new facility construction;
 - b. The operation and maintenance costs of those elements of the facility used to comply with the demonstration under A.R.S. § 49-243(B);
 - c. The cost of closure, described in R18-9-A209(B), consistent with the closure plan or strategy submitted under R18-9-A202(A)(9); and
 - d. The cost of post-closure monitoring and maintenance, described in R18-9-A209(C), consistent with the post closure plan or strategy submitted under R18-9-A202(A)(9).
 2. The cost estimates for facility construction, operation, and maintenance shall be derived from competitive bids, construction plan take-off's, or specifications, if available. The cost estimates may be prepared by an engineer, contractor, or accountant and shall be representative of regional fair market costs.
- B.** Financial demonstration. The applicant's chief financial officer shall submit a statement indicating that the applicant is financially capable of meeting the costs described in subsection (A).
1. The statement shall specify in detail the financial arrangements for meeting the estimated closure and post-closure costs, according to the plans or strategies submitted under R18-9-A202(A)(9).
 2. An applicant other than a state or federal agency, county, city, town, or other local government entity, shall further support the demonstration of financial capability with at least one of the following:
 - a. If a publicly traded corporation, the latest fiscal year-end copy of the applicant's 10K or 20F Form filed under section 13 or 15(d) of the federal Securities Exchange Act of 1934;
 - b. If a non-publicly traded corporation, a report that contains all of the following:
 - i. A brief description of the applicant's status as a corporation;
 - ii. A brief description of the applicant's business;
 - iii. Signed and dated copies of the applicant's U.S. tax returns with all schedules from the two previous tax years and a copy of the most recent year-end financial statement;
 - iv. A brief description of any civil judgement exceeding \$100,000 against the applicant during the last five years preceding the date of the application;
 - v. A brief description of any bankruptcy proceeding instituted by the applicant during the five years preceding the date of the application; and
 - vi. The names of the corporation's executive officers and their dates of birth or ages.
 - c. If the applicant is a partnership or limited liability entity, the name of any principal who owns more than a 20% interest in the business entity;
 - d. If the person is an individual, non-business applicant, a current financial statement and evidence of current personal income or assets.
- C.** The Department shall consider an applicant unable to demonstrate the financial capability necessary to fully carry out the terms of the permit, as described in subsection (B), and shall require the applicant to submit a financial assurance mechanism under subsection (D) if any one of the following conditions exists:
1. For a publicly traded corporation:
 - a. The 10K Form or 20F Form indicates that the company received an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant auditing its financial statements;
 - b. Standard and Poor's or Moody's Investors Service has assigned the applicant an unsecured debt rating less than investment grade. Unacceptable ratings are Standard and Poor's: BB, B, CCC, C, D or Speculative; Moody's Investors Services: Ba, B, Caa, Ca C, or Speculative or lack of an unsecured credit rating by Standard and Poor's or Moody's Investors Service; or
 - c. Lack of assets in the United States equal to at least 90% of the total closure and post-closure care cost estimates.

Notices of Final Rulemaking

2. For a non-publicly traded corporation:
 - a. Lack of a financial statement prepared by an independent certified public accountant, including all balance sheet notes and schedules;
 - b. Lack of assets located in the United States equal to at least 90% of total assets or assets amounting to less than six times the costs of closure and post-closure care; or
 - c. Lack of net working capital and tangible net worth of at least six times the costs of closure and post-closure care.
- D. Financial demonstration option.**
 1. Instead of the financial demonstration required in subsection (B), an applicant may submit evidence of one or more of the following financial assurance mechanisms, listed in A.R.S. § 49-761(J), sufficient to cover the costs described in subsection (A). The applicant shall provide written documentation demonstrating compliance with the listed requirements for each financial assurance mechanism.
 - a. Performance surety bond.
 - i. The surety is listed in Department of Treasury, Circular 570, as qualified in the State where the bond is signed; and
 - ii. The surety's underwriting limit is at least as great as the amount of the surety bond.
 - b. Certificate of deposit.
 - i. The Certificate of deposit is issued by a financial institution that is insured by the Federal Deposit Insurance Corporation or Federal Savings and Loan Insurance corporation, and
 - ii. The Certificate of deposit is assigned to the Director.
 - c. Trust fund with pay-in period.
 - i. The trustee is an entity who has the authority to act as a trustee, and
 - ii. The trust operation is regulated and examined by a federal or state agency.
 - d. Irrevocable letter of credit.
 - i. The issuing financial institution has authority to issue letters of credit, and
 - ii. The issuing financial institution is regulated and examined by a federal or state agency.
 - e. Insurance policy.
 - i. The insurer is licensed to transact the business of insurance or as an excess or surplus lines insurer in one or more states, and
 - ii. The insurer is a non-captive insurer.
 - f. Deposit with the state treasurer.
 - g. Guarantee.
 - i. A guarantor is the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator; and
 - ii. A guarantor meets the requirements of subsection (D) and complies with the terms of the guarantee.
 - h. One or more financial assurance mechanisms; or
 - i. An additional financial assurance mechanism approved by the Director.
 2. A permittee may substitute one financial assurance mechanism for another with prior Director approval.
 3. A permittee shall hold the financial assurance mechanism for the duration of the permit or until the permittee is able to demonstrate the financial capability under subsection (B) necessary to carry out the terms of the Aquifer Protection Permit.
- E. If, after issuing an individual permit, the Director determines that a permittee is not able to maintain the financial capability required in subsection (B), the permittee shall provide evidence of a financial assurance mechanism within 90 days from the date on the Department's notification.**
- E. If the Director has reason to believe that a permittee will lose financial capability, the Director may request demonstration of financial capability no more than quarterly throughout the duration of an individual permit. The permittee shall provide the information within 90 days from the date on the request.**
- G. If a person demonstrates that a financial capability requirement under this Article is duplicative of a financial capability demonstration already made to the state and the Department has access to that information, the person is not required to resubmit that information.**

R18-9-A204. Contingency Plan

- A. An individual permit shall specify a contingency plan that defines the actions to be taken if a discharge results in any of the following:**
 1. A violation of a permit condition.
 2. A violation of an Aquifer Water Quality Standard.
 3. An alert level is exceeded.
 4. A discharge limitation is exceeded, or
 5. An imminent and substantial endangerment to the public health or the environment.

Arizona Administrative Register
Notices of Final Rulemaking

- B.** The contingency plan may include one or more of the following actions if a discharge results in any of the conditions described in subsection (A):
1. Verification sampling;
 2. Notification to downstream or downgradient users who may be directly affected by the discharge;
 3. Further monitoring that may include increased frequency, additional constituents, or additional monitoring locations;
 4. Inspection, testing, or maintenance of discharge control features of the facility;
 5. For sewage treatment facilities, pretreatment evaluation;
 6. Preparation of a hydrogeologic study to assess the extent of soil, surface water, or aquifer impact;
 7. Corrective action that may include any of the following measures:
 - a. Control of the source of an unauthorized discharge.
 - b. Soil cleanup.
 - c. Cleanup of affected surface waters.
 - d. Cleanup of affected parts of the aquifer, or
 - e. Mitigation measures to limit the impact of pollutants on existing uses of the aquifer.
- C.** Each corrective action proposed under subsection (B)(7) is subject to approval by the Department.
1. Emergency response provisions and corrective actions specifically identified in the contingency plan submitted with a permit application are subject to approval by the Department during the application review process.
 2. Corrective actions other than those already identified in the contingency plan may be proposed to the Department by the permittee if a discharge results in any of the conditions identified in subsection (A).
 3. The Department shall approve a proposed corrective action if the corrective action returns the facility to compliance with the facility's permit conditions, A.R.S. Title 49, Chapter 2 and Articles 1 and 2 of this Chapter.
 4. Approved corrective actions other than those already identified in the contingency plan may be incorporated by the Director into an Aquifer Protection Permit.
- D.** A contingency plan shall contain emergency response provisions to address an imminent and substantial endangerment to public health or the environment including:
1. Twenty-four hour emergency response measures;
 2. The name of an emergency response coordinator responsible for implementing the contingency plan;
 3. Immediate notification of the Department regarding any emergency response measure taken;
 4. A list of names, addresses and telephone numbers of persons to be contacted if an imminent and substantial endangerment to public health or the environment arises; and
 5. A general description of the procedures, personnel, and equipment that will be used to mitigate unauthorized discharges.
- E.** A contingency plan required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1251, et seq., as amended), or the Resource Conservation and Recovery Act of 1976 (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), may be amended to meet the requirements of this Section and submitted to the Department for approval instead of a separate aquifer protection contingency plan.
- F.** A permittee shall maintain at least one copy of the contingency plan required by the individual permit at the location where day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of the contingency plan.
- G.** A permittee shall promptly revise the contingency plan upon any change to the information contained in the plan.

R18-9-A205. Alert Levels and Discharge Limitations

- A.** Alert levels.
1. The Department shall establish alert levels in an individual permit. The alert levels shall be based on the site-specific conditions described by the applicant in the application submitted under R18-9-A201(A)(2) or other information available to the Department.
 2. The Department may specify an alert level based on a pollutant that indicates the potential appearance of another pollutant.
 3. The Department may specify the measurement of an alert level at a location appropriate for the discharge activity, considering the physical, chemical, and biological characteristics of the discharge, the particular treatment process, and the site-specific conditions.
- B.** Discharge Limitations. The Department shall prescribe discharge limitations based on the considerations described in A.R.S. § 49-243.

R18-9-A206. Monitoring Requirements

- A.** Monitoring.
1. The Department shall determine whether monitoring is required to assure compliance with Aquifer Protection Permit conditions and with the applicable Aquifer Water Quality Standards established under A.R.S. §§ 49-221, 49-223, 49-241 through 49-244, and 49-250 through 49-252.
 2. If monitoring is required, the Director shall specify to the permittee:

- a. The type and method of monitoring to be conducted;
- b. The frequency of monitoring;
- c. Any requirements for the installation, use, or maintenance of monitoring equipment; and
- d. The intervals at which the permittee shall report monitoring results to the Department.

B. Recordkeeping.

1. A permittee shall make a monitoring record for each sample taken as required by the individual permit consisting of all of the following:
 - a. The date, time, and exact place of a sampling and the name of each individual who performed the sampling;
 - b. The procedures used to collect the sample;
 - c. The date sample analysis was completed;
 - d. The name of each individual or laboratory performing the analysis;
 - e. The analytical techniques or methods used to perform the sampling and analysis;
 - f. The chain of custody records; and
 - g. Any field notes relating to the information described in subsections (B)(1)(a) through (B)(1)(f).
2. A permittee shall make a monitoring record for each measurement made as required by the individual permit consisting of all of the following:
 - a. The date, time, and exact place of the measurement and the name of each individual who performed the measurement;
 - b. The procedures used to make the measurement; and
 - c. Any field notes relating to the information described in subsections (B)(2)(a) and (B)(2)(b).
3. A permittee shall maintain monitoring records for at least 10 years after the date of the sample or measurement.

R18-9-A207. Reporting Requirements

- A.** A permittee shall notify the Department within five days after becoming aware of a violation of a permit condition or that an alert level has been exceeded. The permittee shall inform the Department whether the contingency plan described in R18-9-A204 has been implemented.
- B.** In addition to the requirements in subsection (A), a permittee shall submit a written report to the Department within 30 days after the permittee becomes aware of the violation of a permit condition. The report shall contain:
 1. A description of the violation and its cause;
 2. The period of violation, including exact date and time, if known, and the anticipated time period the violation is expected to continue;
 3. Any action taken or planned to mitigate the effects of the violation or to eliminate or prevent recurrence of the violation;
 4. Any monitoring activity or other information that indicates that a pollutant is expected to cause a violation of an Aquifer Water Quality Standard; and
 5. Any malfunction or failure of a pollution control device or other equipment or process.
- C.** A permittee shall notify the Department within five days after the occurrence of any of the following:
 1. The permittee's filing of bankruptcy, or
 2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.
- D.** The Director shall specify the format for submitting results from monitoring conducted under R18-9-A206.

R18-9-A208. Compliance Schedule

- A.** A permittee shall follow the compliance schedule established in the individual permit.
 1. If a compliance schedule provides that actions are to be taken during a period that exceeds one year from the date of permit issuance, the schedule shall establish interim requirements and dates for their achievement.
 2. If the time necessary for completion of an interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date.
 3. Within 30 days after the applicable date specified in a compliance schedule, a permittee shall submit to the Department a report indicating whether the required action was taken within the time specified.
 4. After reviewing the compliance schedule activity the Director may amend the Aquifer Protection Permit, based on changed circumstances relating to the required action.
- B.** The Department shall consider all of the following factors when setting the compliance schedule requirements:
 1. The character and impact of the discharge.
 2. The nature of construction or activity required by the permit.
 3. The number of persons affected or potentially affected by the discharge.
 4. The current state of treatment technology, and
 5. The age of the facility.

Arizona Administrative Register
Notices of Final Rulemaking

- C.** For a new facility, the Department shall not defer to a compliance schedule any requirement necessary to satisfy the criteria under A.R.S. § 49-243(B).

R18-9-A209. Temporary Cessation, Closure, Post-closure

A. Temporary cessation.

1. A permittee shall notify the Department before a cessation of operations at the facility of at least 60 days duration.
2. The permittee shall implement any measures specified in the individual permit for the temporary cessation.
3. If the permit does not specify temporary cessation measures, the Department shall require the permittee to submit specifications for each measure for approval by the Department.

B. Closure.

1. A permittee shall notify the Department of the permittee's intent to cease operations without resuming an activity for which the facility was designed or operated.
 - a. The permittee shall submit a closure plan for Director approval within 90 days following the notification of intent to cease operations with the applicable fee established in 18 A.A.C. 14. The closure plan shall describe:
 - i. The approximate quantity and chemical, biological, and physical characteristics of each material to be removed from the facility;
 - ii. The destination of the materials to be removed from the facility and documentation that the destination is approved to accept the materials;
 - iii. The approximate quantity and chemical, biological, and physical characteristics of each material that remains at the facility;
 - iv. The method to be used to treat any material remaining at the facility;
 - v. The method to be used to control the discharge of pollutants from the facility;
 - vi. Any limitations on future land or water uses created as a result of the facility's operations or closure activities;
 - vii. The methods to be used to secure the facility;
 - viii. An estimate of the cost of closure;
 - ix. A schedule for implementation of the closure plan and the submission of a post-closure plan; and
 - x. Any other relevant information the Department determines to be necessary.
 - b. Upon receipt of a complete closure plan, the Director shall:
 - i. Provide written notification of the closure as specified in R18-9-108, and
 - ii. If the proposed closure plan does not achieve clean closure, publish a Notice of Preliminary Decision for a permit amendment or issuance of an individual permit as specified in R18-9-109.
2. Within 60 days of receipt of a complete closure plan, the Department shall determine whether the closure plan achieves clean closure.
 - a. If the closure plan achieves clean closure, the Director shall send a letter of approval to the permittee;
 - b. If the closure plan does not achieve clean closure, the permittee shall submit a post closure plan under subsection (C) and the following documents within 90 days from the date on the Department's notice or as specified under A.R.S. § 49-252(E):
 - i. An application for an individual permit, or
 - ii. A request to modify a current individual permit to address closure activities and post-closure monitoring and maintenance at the facility.
3. The Director shall require implementation of the closure plan as a permit condition.

C. Post-closure. A permittee shall describe post-closure monitoring and maintenance activities in a plan and submit it to the Department for approval.

1. The plan shall include:
 - a. The duration of post-closure care;
 - b. The monitoring procedures to be implemented by the permittee, including monitoring frequency, type, and location;
 - c. A description of the operating and maintenance procedures to be implemented for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, and monitoring wells;
 - d. A schedule and description of physical inspections to be conducted at the facility following closure;
 - e. An estimate of the cost of post-closure maintenance and monitoring; and
 - f. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations.
2. The Director shall include the post-closure plan submitted under subsection (C)(1) in the individual permit.

D. The permittee shall provide the Department with written notice that a closure plan or a post-closure plan has been fully implemented within 30 calendar days of completion.

R18-9-A210. Temporary Individual Permit

A. A person may apply for a temporary individual permit for either of the following:

Notices of Final Rulemaking

1. A pilot project necessary to develop data for an Aquifer Protection Permit application for the full-scale project, or
2. A temporary facility with a discharge lasting no more than six months.
- B.** The applicant shall submit a preliminary application containing the information required in R18-9-A201(A)(2)(a).
- C.** The Department shall, based on the preliminary application and in consultation with the applicant, determine and provide the applicant notice of what additional information in R18-9-A201(A)(2) is necessary to complete the application.
- D.** Public participation.
 1. If the Director issues a temporary individual permit, the Director shall postpone the public participation requirements under R18-9-109.
 2. The Director shall not postpone notification of the opportunity for public participation for more than 30 days from the date on the temporary individual permit.
 3. The Director may modify or revoke the temporary individual permit after consideration of public comments.
- C.** A temporary individual permit expires after one year unless it is renewed. A permittee may renew a temporary individual permit no more than one time.

R18-9-A211. Permit Amendments

- A.** The Director may amend an individual permit based upon a request or upon the Director's initiative.
 1. A permittee shall submit a request for permit amendment in writing on a form provided by the Department with the applicable fee established in 18 A.A.C. 14, explaining the facts and reasons justifying the request.
 2. The Department shall process amendment requests following the licensing time-frames established under 18 A.A.C. 1, Article 5.
- B.** Significant permit amendment. The Director shall make a significant amendment to an individual permit if:
 1. Part or all of an existing facility becomes a new facility under A.R.S. § 49-201;
 2. A physical change in a permitted facility or a change in its method of operation results in:
 - a. An increase of 10% or more in the permitted volume of pollutants discharged, except a sewage treatment facility;
 - b. An increase in design flow of a sewage treatment facility as follows:

<u>Permitted Design Flow</u>	<u>% Increase in Design Flow</u>
<u>500,000 gallons per day or less</u>	<u>10%</u>
<u>Greater than 500,000 gallons per day but less than or equal to five million gallons per day</u>	<u>6%</u>
<u>Greater than five million gallons per day but less than or equal to 50 million gallons per day</u>	<u>4%</u>
<u>Greater than 50 million gallons per day</u>	<u>2%</u>
 - c. Discharge of an additional pollutant not allowed by a facility's original individual permit. The Director may consider the addition of a pollutant with a chemical composition substantially similar to a pollutant the permit currently allows by making an "other" amendment to the individual permit as prescribed in subsection (D);
 - d. For any pollutant not addressed in a facility's individual permit, any increase that brings the level of the pollutant to within 80% or more of a numeric Aquifer Water Quality Standard at the point of compliance;
 - e. An increase in the concentration in the discharge of a pollutant listed under A.R.S. § 49-243(I).
 3. Based upon available information, the facility can no longer demonstrate that its discharge will comply with A.R.S. § 49-243(B)(2) or (3);
 4. The permittee requests and the Department makes a monitoring change, not specified in the individual permit, that will reduce the frequency in monitoring or reporting or that will reduce the number of pollutants monitored and the permittee demonstrates that the changes do not affect its ability to remain in compliance with Articles 1 and 2 of this Chapter;
 5. It is necessary to change the designation of a point of compliance;
 6. The permittee requests and the Department makes less stringent discharge limitations and demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
 7. It is necessary to make an addition to or a substantial change in closure requirements or to provide for post-closure maintenance and monitoring;
 8. Material and substantial alterations or additions to a permitted facility justify a change in permit conditions.
- C.** Minor permit amendment. The Director shall make a minor amendment to an individual permit to:
 1. Correct a typographical error;
 2. Change nontechnical administrative information, excluding a permit transfer;
 3. Correct minor technical errors, such as errors in calculation, locational information, citations of law, and citations of construction specifications;
 4. Increase the frequency of monitoring or reporting, or to revise a laboratory method;
 5. Make a discharge limitation more stringent; or
 6. Insert calculated alert levels or other permit limits into a permit based on monitoring subsequent to permit issuance, if a requirement to establish the levels or limits and the method for calculation of the levels or limits was established in the original permit.

Arizona Administrative Register
Notices of Final Rulemaking

D. “Other” permit amendment.

1. The Director may make an “other” amendment to an individual permit if the amendment is not a significant or minor permit amendment prescribed in this Section, based on an evaluation of the information relevant to the amendment.
2. Examples of an “other” amendment to an individual permit include:
 - a. A change in a construction requirement or operational practice, if the alteration complies with the requirements of Articles 1 and 2 of this Chapter and provides equal or better performance;
 - b. A change in an interim or final compliance date in a compliance schedule, if the Director determines just cause exists for changing the date;
 - c. A change in the permittee’s financial assurance mechanism under R18-9-A203(D)(2);
 - d. Permit transfer under R18-9-A212;
 - e. Replacement of monitoring equipment, including a well, if the replacement results in equal or greater monitoring effectiveness;
 - f. Any increase in the volume of pollutants discharged that is less than that described in subsection (B)(2)(a) or (B)(2)(b);
 - g. An adjustment of the permit to conform to rule or statutory provisions;
 - h. A combination of two or more permits at the same site as specified under R18-9-107; or
 - i. An adjustment of monitoring requirements to ensure reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.

E. The public notice and public participation requirements of R18-9-108 and R18-9-109 apply to a significant amendment. The public notice requirements apply to an “other” amendment. A minor amendment does not require a public notice or public participation.

R18-9-A212. Permit Transfer

- A. The owner or operator of a facility subject to the continuance requirements under R18-9-105(A)(1), (A)(2), or (A)(3) shall notify the Department by certified mail within 15 days following a change of ownership. The notice shall include:**
1. The name of the transferor owner or operator;
 2. The name and social security number of the transferee owner or operator, if the transferee owner operator is an individual;
 3. The name and location of the facility;
 4. The written agreement between the existing and new permittee indicating a specific date for transfer of all permit responsibility, coverage, and liability;
 5. A signed declaration by the new permittee that the permittee has reviewed the permit and agrees to be bound by its terms; and
 6. The applicable fee established in 18 A.A.C. 14.
- B. A permittee may transfer an individual permit to a new permittee if the Director amends the permit to identify the new permittee and holds the new permittee responsible for all conditions of the permit. The new permittee shall:**
1. Notify the Department by certified mail within 15 days after the change of ownership of the transfer and include a written agreement between the existing and new permittee indicating a specific date for transfer of all permit responsibility, coverage, and liability;
 2. Submit the applicable fee established in 18 A.A.C. 14;
 3. Demonstrate the technical and financial capability necessary to fully carry out the terms of the permit according to R18-9-A202 and R18-9-A203;
 4. Submit a signed statement by the new permittee that the permittee has reviewed the permit and agrees to be bound by its terms; and
 5. Provide the Department with a copy of the Certificate of Disclosure required by A.R.S. § 49-109.
- C. A permittee shall comply with the permit conditions specified under A.R.S. §§ 49-241 through 49-252, and Articles 1 and 2 of this Chapter, regardless of whether the permittee has sold or disposed of the facility, until the Director transfers the permit.**

R18-9-A213. Permit Suspension, Revocation, or Denial

- A. The Director may suspend or revoke an individual permit or a continuance under R18-9-105(A)(1), (A)(2), or (A)(3) for any of the following:**
1. A permittee failed to comply with any applicable provision of A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; or any permit condition.
 2. A permittee’s misrepresentation or omission of any fact, information, or data related to an Aquifer Protection Permit application or permit conditions.
 3. The Director determines that a permitted activity is causing or will cause a violation of any Aquifer Water Quality Standard at a point of compliance.
 4. A permitted discharge is causing or will cause imminent and substantial endangerment to public health or the environment.

Notices of Final Rulemaking

- B.** The Director may deny an individual permit if the Director determines upon completion of the application process that the applicant has:
1. Failed or refused to correct a deficiency in the permit application;
 2. Failed to demonstrate that the facility and the operation will comply with the requirements of A.R.S. §§49-241 through 49-252 and Articles 1 and 2 of this Chapter. This determination shall be based on:
 - a. The information submitted in the Aquifer Protection Permit application.
 - b. Any information submitted to the Department following a public hearing, or
 - c. Any relevant information that is developed or acquired by the Department.
 3. Provided false or misleading information.

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

- A.** Applicability. The requirements in this Article, including BADCT requirements, apply to all sewage treatment facilities, including expansions of existing sewage treatment facilities, that treat wastewater containing sewage, unless the discharge is covered by a general permit under Article 3 of this Chapter.
- B.** The Director may specify alert levels, discharge limitations, design specifications, and operation and maintenance requirements in the permit that are based upon information provided by the applicant and that meet the requirements under A.R.S. § 49-243(B)(1).
- C.** The Director may specify adherence to an operation and maintenance plan as an Aquifer Protection Permit condition, based on consideration of the factors in A.R.S. § 49-243(B)(1).
- D.** A person shall not install or maintain a connection between any part of a sewage treatment facility and a potable water supply so that sewage or wastewater contaminates a potable or public water supply.
- E.** A person shall not bypass untreated sewage from a sewage treatment facility.
- F.** Reclaimed water dispensed to a direct reuse site from a sewage treatment facility is regulated under Reclaimed Water Quality Standards established under A.R.S. § 49-221(E) and reclaimed water permit requirements under A.R.S. § 49-203(A)(6).
- G.** The preparation, transport, or land application of any biosolid generated by a sewage treatment facility is regulated under 18 A.A.C. 13, Article 15.
- H.** The Department shall not publish a Notice of Preliminary Decision to issue an individual permit or amendment under R18-9-A211(B)(2)(b) or an amendment under R18-9-A211(B)(6) for a sewage treatment facility that is not in conformance with the Certified Areawide Water Quality Management Plan and the Facility Plan.
- I.** The owner or operator of a sewage treatment facility that is a new facility or undergoing a major modification shall provide setbacks from the nearest adjacent property line using the following information:

<u>Sewage Treatment Facility Design Flow (gallons per day)</u>	<u>No Noise, Odor, or Aesthetic Controls (feet)</u>	<u>Full Noise, Odor, and Aesthetic Controls (feet)</u>
<u>3000 to less than 24,000</u>	<u>250</u>	<u>25</u>
<u>24,000 to less than 100,000</u>	<u>350</u>	<u>50</u>
<u>100,000 to less than 500,000</u>	<u>500</u>	<u>100</u>
<u>500,000 to less than 1,000,000</u>	<u>750</u>	<u>250</u>
<u>1,000,000 or greater</u>	<u>1000</u>	<u>350</u>

1. Full noise, odor, and aesthetic controls means that all treatment components are fully enclosed, odor scrubbers are installed on all vents, and fencing aesthetically matched to that in the area surrounding the facility
2. The owner or operator may decrease setbacks if setback waivers are obtained from affected property owners in which the property owner acknowledges awareness of the established setbacks, basic design of the sewage treatment facility, and the potential for noise and odor.

R18-9-B202. Application Requirements

- A.** An applicant shall submit a design report sealed by an Arizona-registered professional engineer. The design report shall include the following information:
1. Wastewater characterization, including quantity, quality, seasonality, and impact of increased flows as the facility reaches design flow;
 2. The proposed method of disposal, including solids management;
 3. A description of the treatment unit processes and containment structures, including diagrams and calculations that demonstrate that the design meets BADCT requirements and will achieve treatment levels specified in R18-9-B204. If soil aquifer treatment or other aspects of site conditions are used to meet BADCT requirements, the applicant shall document performance of the site in the design report or the hydrogeologic report;

Arizona Administrative Register
Notices of Final Rulemaking

4. A description of planned normal operation;
 5. A description of operation and maintenance, an operation and maintenance plan, and a description of contingency and emergency operation of the system;
 6. A description of construction management controls;
 7. A description of the system startup plan, including pre-operational testing, expected treated wastewater characteristics and monitoring requirements during startup, expected time-frame for meeting performance requirements specified in R18-9-B204(C), and any other special startup condition that may merit consideration in the individual permit;
 8. A site diagram depicting compliance with the setback requirements established in R18-9-B201(I);
 9. For a sewage treatment facility with design flow under one million gallons per day, a design report and engineering plans and specifications. The Director may waive this requirement if the Director previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with design flow of more than one million gallons per day;
 10. A certification by an Arizona-registered professional engineer that all other aspects of the design, including pipe coding, auxiliary power sources, and separation requirements, comply with applicable statutes, rules, and codes.
- B.** In addition to the technical and financial capability requirements specified in R18-9-A202 and R18-9-A203, the following requirements apply if construction or expansion of a private sewage treatment facility has been approved for treatment of sewage from a subdivision under R18-5-402. These requirements do not apply to a subdivision where each lot has an on-site wastewater treatment facility as defined in A.R.S. § 49-201 for sewage disposal:
1. If responsibility for operation of the private sewage treatment facility will be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator is technically capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204.
 2. If responsibility for operation of the private sewage treatment facility will be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator is financially capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204, including monitoring, recordkeeping, and assuring that the system is under continuous operational control by the correct classification of a certified operator, as specified in 18 A.A.C. 5, Article 1.

R18-9-B203. Application Review and Approval

- A.** To ensure that BADCT requirements are met, the Department shall ask to review engineering plans and specifications for a sewage treatment facility with a design flow of one million gallons per day or greater if:
1. The design report required in R18-9-B202(A) fails to provide sufficient detail to determine adequacy of the proposed sewage treatment facility design;
 2. The described design is innovative and does not reflect treatment technologies generally accepted as demonstrated within the industry;
 3. The Department's calculations of removal efficiencies based on the design report show that the treatment facility cannot achieve BADCT performance requirements;
 4. The design report does not demonstrate:
 - a. Protection from physical damage due to a 100-year flood,
 - b. Ability to continuously operate during a 25-year flood, or
 - c. Provision for a standby power source.
 5. The design report shows inconsistency in sizing or compatibility between two or more unit process components of the sewage treatment facility;
 6. The designer of the facility has:
 - a. Designed a sewage treatment facility of at least a similar size on less than three previous occasions,
 - b. Designed a sewage treatment facility that has been the subject of a Director enforcement action due to the facility design, or
 - c. Been found by the Board of Technical Registration to have violated a provision of A.R.S. Title 32, Chapter 1.
 7. The permittee seeks to expand its sewage treatment facility and the Department believes that BADCT will require upgrades to the design that have not been described and evaluated in the design report.
- B.** The Department shall review engineering plans and specifications and a design report upon request by an applicant seeking a permit for a sewage treatment facility, regardless of its flow.
- C.** The Department may inspect an applicant's facility without notice to ensure that construction generally conforms to the design report.

R18-9-B204. Treatment Performance Requirements For New Facilities

- A.** An owner or operator of a new sewage treatment facility shall ensure that the facility meets the following performance requirements upon release of the treated wastewater at the outfall:
1. Secondary treatment levels.

- a. Five-day biochemical oxygen demand (BOD₅) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand (CBOD₅) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
- b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
- c. pH maintained between 6.0 and 9.0 standard units; and
- d. A removal efficiency of 85% for BOD₅ CBOD₅ and TSS.
2. Secondary treatment by waste stabilization ponds is not considered BADCT unless an applicant demonstrates to the Department that site-specific hydrologic and geologic characteristics and other environmental factors are sufficient to justify use of ponds or this method of treatment.
3. Total nitrogen in the treated wastewater is less than 10 mg/l (five-month rolling geometric mean). If an applicant demonstrates, using appropriate monitoring that soil aquifer treatment will produce a total nitrogen concentration of less than 10 mg/l in wastewater that percolates to groundwater, the Department may approve soil aquifer treatment for removal of total nitrogen as an alternative to meeting the performance requirement of 10 mg/l at the outfall.
4. Pathogen removal.
 - a. A sewage treatment facility with a design flow of less than 250,000 gallons per day. A fecal coliform limit of 200 colony forming units per 100 ml (seven-sample median) and 800 colony forming units per 100 ml (single sample maximum) applies if:
 - i. Depth to the seasonally high groundwater table is greater than 20 feet, and
 - ii. The system is not located above karstic or fractured bedrock.
 - b. Any other sewage treatment facility. A fecal coliform limit, using the membrane filter technique, of 2.2 colony forming units per 100 ml (seven-sample median) and less than 23 colony forming units per 100 ml (single sample maximum), or equivalent numbers using the multiple tube fermentation method, applies. Unit treatment processes, such as chlorination-dechlorination, ultraviolet, and ozone may be used to achieve this standard.
 - c. The Department may approve soil aquifer treatment for the removal of fecal coliform as an alternative to meeting the performance requirement in subsection (B)(4)(b), if the soil aquifer treatment process will produce a fecal coliform concentration less than that required under subsection (B)(4)(b) in wastewater that percolates to groundwater.
5. Unless governed by A.R.S. § 49-243(I), the performance requirement for each constituent regulated under R18-11-406(B) through (E) is the numeric Aquifer Water Quality Standard.
6. The performance requirement for a constituent regulated under A.R.S. § 49-243(I) is removal to the greatest extent practical regardless of cost.
 - a. An operator shall minimize trihalomethane compounds generated as disinfection byproducts using chlorination, dechlorination, ultraviolet, or ozone as the disinfection system or using a technology demonstrated to have equivalent or better performance for removing or preventing trihalomethane compounds.
 - b. For other pollutants regulated by A.R.S. § 49-243(I), an operator shall use one of the following methods to achieve industrial pretreatment:
 - i. Regulate industrial sources of influent to the sewage treatment facility by setting limits on pollutant concentrations, monitoring for pollutants, and enforcing the limits to reduce, eliminate, or alter the nature of a pollutant before release into a sewage collection system; or
 - ii. Meet the pretreatment requirements of Section 307 of the Federal Water Pollution Control Act; or
 - iii. For sewage treatment facilities without significant industrial input, conduct periodic monitoring to detect industrial discharge.
7. A maximum seepage rate less than 550 gallons per day per acre for all containment structures within the treatment works. A sewage treatment facility that consists solely of containment structures with no other form of discharge complies with this Part by operating below the maximum 550 gallon per day per acre seepage rate.
- B. The Director shall incorporate treated wastewater discharge limitations and associated monitoring specified in this Section into the individual permit to ensure compliance with the BADCT requirements.
- C. An applicant shall formally request and justify an alternative that allows less stringent performance than that established in this Section, based on the criteria specified in A.R.S. § 49-243(B)(1), including in the justification a consideration of site-specific hydrologic and geologic characteristics and other environmental factors, facility size, method of wastewater disposal or direct reuse, proportion of sewage to total industrial wastewater volume, and the seasonality of the service area for the sewage treatment facility. If a request involves treatment or disposal works that are a demonstration, experimental, or pilot project, the Department shall take into account the factors and may issue an individual permit that places greater reliance on monitoring to ensure operational capability.

R18-9-B205. Treatment Performance Requirements for Existing Facility

For an existing sewage treatment facility, the BADCT shall conform with the following:

1. The designer shall identify one or more design improvements that brings the facility closer to or within the treatment performance requirements specified in R18-9-B204, considering the factors listed in A.R.S. § 49-243(B)(1)(a) and (B)(1)(c) through (B)(1)(h).

Arizona Administrative Register
Notices of Final Rulemaking

2. The designer may eliminate from consideration alternatives identified in subsection (1) that are more expensive than the number of gallons of design flow times \$0.05 per gallon, and
3. The designer shall select as the BADCT for the facility a design that incorporates one or more of the considered alternatives by giving preference to measures that will provide the greatest improvement toward meeting the treatment performance requirements specified in R18-9-B204.

R18-9-B206. Treatment Performance Requirements for Expansion of a Permitted Facility

For an expansion of a sewage treatment facility with a current individual permit, the BADCT shall conform with the following:

1. New facility BADCT requirements of R18-9-204:
 - a. Continue to apply for the part of the facility that conformed to the BADCT requirements for a new facility at the last permit issuance;
 - b. Apply to the addition of a process or major piece of production equipment, building, or structure that is physically separate from a facility and causes discharge; and
 - c. Apply to the part of the facility that has not been required to conform to BADCT requirements for new facilities, if a facility or part of a facility has undergone or will undergo any change identified in R18-9-A211(B)(2).
2. BADCT requirements for existing facilities established in R18-9-B205 apply to expansions not covered by subsections (1)(a), (1)(b), or (1)(c).

ARTICLE 3. AQUIFER PROTECTION PERMITS - GENERAL PERMITS
PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

A. Discharging Requirements.

1. Type 1 General Permit. A person may discharge under a Type 1 General Permit without submitting a Notice of Intent to Discharge if the discharge is authorized by and meets:
 - a. The requirements of Article 3, Part A of this Chapter, and
 - b. The specific terms of the applicable Type 1 General Permit, established in Article 3, Part B of this Chapter.
2. Type 2 General Permit. A person may discharge under a Type 2 General Permit if:
 - a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 2 General Permit established in Article 3, Part C of this Chapter;
 - b. The person files a Notice of Intent to Discharge under subsection (B); and
 - c. The person submits the applicable fee established in 18 A.A.C. 14.
3. Type 3 General Permit. A person may discharge under a Type 3 General Permit if:
 - a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 3 General Permit established in Article 3, Part D of this Chapter; and
 - b. The person files a Notice of Intent to Discharge under subsection (B);
 - c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review and receives a written Verification of General Permit Conformance from the Director; and
 - d. The person submits the applicable fee established in 18 A.A.C. 14.
4. Type 4 General Permit. A person may discharge under a Type 4 General Permit if:
 - a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 4 General Permit, established in Article 3, Part E of this Chapter;
 - b. The person files a Notice of Intent to Discharge under subsection (B).
 - c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review, including deficiencies relating to the construction of the facility, and receives a written Verification of General Permit Conformance from the Director; and
 - d. The person submits the applicable fee established in 18 A.A.C. 14.

B. Notice of Intent to Discharge.

1. A person seeking a general permit under subsections (A)(2), (A)(3), or (A)(4) shall submit, by certified mail, in person, or by another method approved by the Department, a Notice of Intent to Discharge on a form provided by the Department.
2. The Notice of Intent to Discharge shall include:
 - a. The name, address, and telephone number of the applicant;
 - b. The social security number of the applicant, if the applicant is an individual;
 - c. The name, address, and telephone number of a contact person familiar with the operation of the facility;
 - d. The name, position, address, and telephone number of the owner or operator of the facility who has overall responsibility for compliance with the permit;
 - e. The legal description of the discharge areas, including the latitude and longitude coordinates;

Notices of Final Rulemaking

- f. A narrative description of the facility or project, including expected dates of operation, rate, and volume of discharge;
 - g. The information required for the general permit;
 - h. A listing of any other federal or state environmental permits issued for or needed by the facility, including any individual permit, Groundwater Quality Protection Permit, or Notice of Disposal that may have previously authorized the discharge; and
 - i. A signature on the Notice of Intent to Discharge certifying that the permittee agrees to comply with all requirements of this Article, including specific terms of the applicable general permit.
3. Receipt of a completed Notice of Intent to Discharge by the Department begins the administrative completeness review.

C. Type 3 General Permit review.

- 1. Inspection. The Department may inspect the facility to determine that the applicable terms of the general permit have been met.
- 2. Verification issuance.
 - a. If the Department determines, based on its review and an inspection, if conducted, that the facility conforms with the requirements of the general permit and the applicable requirements of this Article the Director shall issue a Verification of General Permit Conformance.
 - b. The Verification of General Permit Conformance authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
- 3. Verification denial. If the Department determines, based on its review and an inspection, if conducted, that the discharge does not conform to the requirements of the general permit or other applicable requirements of this Article, the Director shall notify the person of its decision not to issue the Verification of General Permit Conformance and the person shall not discharge under the general permit. The notification shall inform the person of:
 - a. The reason for the denial with reference to the statute or rule on which the denial is based;
 - b. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
 - c. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

D. Type 4 General Permit review.

- 1. Pre-construction phase and facility construction.
 - a. Inspection. The Department may inspect the facility site before construction to determine that the applicable terms of the general permit will be met.
 - b. Review. If the Department determines, based on its review of, design plans, specifications, or other required documents, or an inspection, that the facility does not conform with the requirements of the general permit or other applicable requirements of this Article, the Department shall make a written request for additional information.
 - c. Notification of provisional verification. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design conforms with the requirements of the general permit and other applicable requirements of this Article, the Director shall provide a notification of Provisional Verification of General Permit Conformance to the person seeking to discharge.
 - d. Notification of failure to conform to general permit requirements. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design does not conform to the terms of the general permit and other applicable requirements of this Article, the Director shall notify the person seeking to discharge of its decision not to issue a Verification of General Permit Conformance. The notification shall follow the requirements of subsection (D)(2)(d).
 - e. Construction.
 - i. The person seeking to discharge shall not begin facility construction until the Director provides notification of Provisional Verification of General Permit Conformance.
 - ii. The person seeking verification to discharge may take up to two years to complete construction.
 - iii. Construction shall conform with the plans and documents verified by the Department under subsection (D)(1)(b). A change in location, configuration, dimension, depth, material, or installation procedure does not require approval by the Department if the change continues to conform with the specific standard in this Article used as the basis for the original design.
 - iv. All changes made during construction, including any changes approved under R18-9-A312(G), shall be recorded on the site plan as specified in R18-9-A309(C)(1) or on applicable documents as specified in R18-9-A309(C)(2), as applicable;

Arizona Administrative Register
Notices of Final Rulemaking

- f. Completion of construction.
 - i. After completing construction of the facility, the person seeking to discharge shall submit to the Department the applicable verification documents specified in R18-9-A309(C). Receipt of the documents by the Department initiates the post-construction review phase.
 - ii. If the Department receives no verification documents by the end of the two-year construction period, the Notice of Intent to Discharge expires, and the person shall not continue construction or discharge.
 - iii. If the Notice of Intent to Discharge expires, the person shall submit a new Notice of Intent to Discharge under subsection (B) to begin or continue construction.
- 2. Post-construction phase.
 - a. Inspection. The Department may inspect the facility before issuing a Verification of General Permit Conformance to determine that:
 - i. The construction conforms with the design verified by the Department under subsection (D)(2)(c) and any changes recorded on the site plan as specified by R18-9-A309(C)(1) or other documents as specified by R18-9-A309(C)(2), as applicable.
 - ii. Terms of the general permit and applicable terms of this Article will be met.
 - b. Deficiencies. If the Department identifies deficiencies in the constructed facility or in documents submitted in fulfillment of the Verification of General Permit Conformance, the Director shall provide a written explanation of the deficiencies to the person.
 - c. Verification of General Permit Conformance.
 - i. Upon satisfactory completion of construction and documents required under R18-9-A309(C)(1) or R18-9-A309(C)(2), as applicable, the Director shall issue a Verification of General Permit Conformance.
 - ii. The Verification of General Permit Conformance authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
 - d. Verification denial. If, after receiving evidence of correction submitted by the person seeking to discharge, the Department determines that the deficiencies are not satisfactorily corrected, the Director shall notify the person of the Director's decision not to issue the Verification of General Permit Conformance and the person shall not discharge under the general permit. The notification shall inform the person of:
 - i. The reason for the denial with reference to the statute or rule on which the denial is based;
 - ii. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
 - iii. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

R18-9-A302. Point of Compliance

The point of compliance is the point at which compliance with Aquifer Water Quality Standards is determined.

- 1. Except as provided in this Section or as stated in a specific general permit, the applicable point of compliance at a facility operating under a general permit is a vertical plane downgradient of the facility that extends through the uppermost aquifers underlying that facility.
- 2. The point of compliance is the limit of the pollutant management area.
 - a. The pollutant management area is the horizontal plane of the area on which pollutants are or will be placed.
 - b. If a facility operating under a general permit is located within a larger pollutant management area established under an individual permit issued to the same person, the point of compliance is the applicable point of compliance established in the individual permit.

R18-9-A303. Permit Renewal

- A.** Unless a general permit is transferred, a facility is authorized to discharge under the general permit for the operational life of the facility, including any closure activities required by a specific general permit.
- B.** A permittee shall submit the application for renewal on a form provided by the Department with the applicable fee established in 18 A.A.C. 14 at least 90 days before the end of the renewal period.
 - 1. The following are the renewal periods for Type 2 General Permits and Type 3 General Permits:
 - a. 2.01 General Permit, five years;
 - b. 2.02 General Permit, seven years;
 - c. 2.03 General Permit, two years;
 - d. Type 3 General Permits, five years.
 - 2. The renewal period for a Type 2 General Permit begins on the date of the Department's receipt of the Notice of Intent to Discharge.
 - 3. The renewal period for a Type 3 General Permit begins on the date that the Director issues the written Verification of General Permit Conformance.
- C.** If the general permit is not renewed within the renewal period specified in subsection (B)(1), the general permit expires.

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-A304. Notice of Transfer

- A.** If a change of ownership occurs for a Type 2, Type 3, or Type 4 General Permit facility, the permittee shall provide a Notice of Transfer to the Department by certified mail within 15 days after the date that ownership changes. The Notice of Transfer shall include:
1. Any information that has changed from the original Notice of Intent to Discharge.
 2. Any other transfer requirements specified for the general permit, and
 3. The applicable fee established in 18 A.A.C. 14.
- B.** The Department may require a Type 2, Type 3, or Type 4 General Permit permittee to submit a new Notice of Intent to Discharge and to obtain new verifications under R18-9-A301(A)(3), and (A)(4), as applicable, if the volume or characteristics of the discharge have changed from the original application.

R18-9-A305. Facility Expansion

- A.** A Type 2 General Permit facility may be expanded if, before the expansion, the permittee provides the Department with the following information by certified mail:
1. An updated Notice of Intent to Discharge.
 2. A certification signed by the facility owner stating that the expansion continues to meet all the conditions of the applicable general permit, and
 3. The applicable fee established under 18 A.A.C. 14.
- B.** A Type 3 or Type 4 General Permit facility may be expanded contingent on review and verification by the Department of a new Notice of Intent to Discharge.
1. The person submitting the Notice of Intent to Discharge for the expansion may reference the previous Notice of Intent to Discharge if the previous information is identical, but shall provide full and detailed information for any changed items.
 2. The Notice of Intent to Discharge shall include:
 - a. Any applicable fee established by 18 A.A.C. 14, and
 - b. A certification signed by the facility owner stating that the expansion continues to meet all of the requirements relating to the applicable general permit.
 3. Upon receiving the Notice of Intent to Discharge, the Department shall follow the applicable review and verification procedures described in R18-9-A301(A)(3) or (A)(4).

R18-9-A306. Closure

- A.** In addition to the closure requirements specified in a general permit, a permittee shall submit the closure plan specified under A.R.S. § 49-252.
- B.** The closure plan submitted under A.R.S. § 49-252 meets the clean closure requirement if the permittee:
1. Removes material that may contribute to a continued discharge; and
 2. Eliminates, to the greatest degree practical, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.
- C.** For an on-site wastewater treatment facility or a 1.09 General Permit facility, a permittee shall comply with the requirements of R18-9-A309(D) to meet the requirements of this Section.
- D.** For a facility operating under a general permit and located at a site where an individual area-wide permit has been issued, a permittee may defer some or all closure activities required by this subsection if the Director approves the deferral in writing. The closure activities shall be performed no later than the closure activities identified in the individual area-wide permit.

R18-9-A307. Permit Revocation

- A.** The Director shall revoke a general permit and require the permittee to obtain an individual permit for any of the following:
1. The permittee fails to comply with the terms of the general permit as described in this Article, or
 2. The discharge activity conducted under the terms of a general permit causes or contributes to the violation of an Aquifer Water Quality Standard at the applicable point of compliance.
- B.** The Director shall revoke a general permit for any or all facilities within a specific geographic area, if, due to geologic or hydrologic conditions, the cumulative discharge of the facilities has violated or will violate an Aquifer Water Quality Standard established under A.R.S. §§ 49-221 and 49-223. Unless the public health or safety is jeopardized, the Director may allow continuation of a discharge for the revoked general permit until the Department:
1. Processes the application for a single individual permit, or
 2. Consolidates the general permits and issues a single individual permit to a political subdivision that has jurisdiction over the specific geographic area.
- C.** Unless allowed under subsection (B), if the Director revokes a permit, the facility shall not discharge.
- D.** The Director shall notify a permittee by certified mail of its decision to revoke a general permit.

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-A308. Violations and Enforcement For On-site Wastewater Treatment Facilities

- A.** A person who owns or operates an on-site wastewater treatment facility contrary to the provisions of a Type 4 General Permit is subject to the enforcement actions under A.R.S. § 49-261;
- B.** A person who violates this Article or a specific term of a general permit for an on-site wastewater treatment facility is subject to enforcement actions under A.R.S. § 49-261.

R18-9-A309. General Provisions For Type 4 General Permits Concerning On-site Wastewater Treatment Systems

- A.** General requirements and prohibitions.
1. Sewage or wastewater that contains sewage shall not be discharged from an on-site wastewater treatment facility except under an Aquifer Protection Permit issued by the Director.
 2. A person shall not install, allow to be installed, or maintain a connection between any part of an on-site wastewater treatment facility and a drinking water system or supply so that sewage or wastewater contaminates the drinking water.
 3. A person shall not bypass untreated sewage from an on-site wastewater treatment facility.
 4. A person shall not use a cesspool for sewage disposal.
 5. The Department shall require connection to a sewage collection system if the connection is practical. A connection is practical if the distance to connect to the sewer is 400 feet or less and the total cost of the connection is less than \$6000 if capacity is available and performance of the sewage collection system and receiving sewage treatment facility are not impaired.
 6. The Department shall prohibit installation of an on-site wastewater treatment facility if the installation will create an unsanitary condition or environmental nuisance or cause or contribute to a violation of an Aquifer Water Quality Standard.
 7. A permittee shall service or repair an operating on-site wastewater treatment facility, or install a replacement facility if the facility has created or if its use creates an unsanitary condition or environmental nuisance or has caused or causes a violation of an Aquifer Water Quality Standard.
 8. A permittee shall operate the permitted on-site wastewater treatment facility so that:
 - a. Flows to the facility consist of typical sewage and do not include any motor oil, gasoline, paint, varnish, solvent, pesticide, fertilizer, or other material not generally associated with toilet flushing, food preparation, laundry, and personal hygiene;
 - b. Flows to the facility from commercial operations do not contain hazardous substances or hazardous wastes, as defined under A.R.S. § 49-921(5);
 - c. A typical sewage flow with a component of flow from nonresidential food preparation or laundry service is adequately pretreated by an interceptor that complies with R18-9-A315 or another device authorized by a general permit or approved by the Department under R18-9-A312(G);
 - d. Except as provided in subsection (A)(8)(c), a sewage flow that does not meet the numerical levels for typical sewage is adequately pretreated to meet the numerical levels before entry into an on-site wastewater treatment facility authorized by this Article;
 - e. Flow to the facility does not exceed the design flow specified in the Verification of General Permit Conformance;
 - f. Activities at the site do not adversely affect the operation of the facility.
- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information in a format approved by the Department:
1. A site investigation report that summarizes the results of the site investigation conducted under R18-9-A310(C), including:
 - a. Results from any soil evaluation, percolation test, or seepage pit performance test; and
 - b. Any limiting site conditions identified by the site investigation.
 2. A site plan that includes:
 - a. The parcel and lot number, if applicable, the property address or other appropriate legal description, the property size in acres, and the boundaries of the property on which the on-site wastewater treatment facility will be installed;
 - b. A plan of the site drawn to scale, dimensioned, and with a north arrow that shows:
 - i. Proposed and existing on-site wastewater treatment facilities; dwellings and other buildings; driveways, swimming pools, tennis courts, wells, ponds, and any other paved, concrete, or water feature; and cut banks, retaining walls, and any other constructed feature that affects proper location, design, construction, or operation of the facility;
 - ii. Any feature less than 200 feet outside the property boundary that constrains the location of the on-site wastewater treatment facility because of setback limitations specified in R18-9-A312(C);
 - iii. Topography, delineated with an appropriate contour interval, showing original and post-installation grades;
 - iv. Location and identification of the treatment and disposal works and connecting pipelines, the reserve disposal area, and location and identification of all sites of percolation testing and soil evaluation performed under R18-9-A310; and

Arizona Administrative Register
Notices of Final Rulemaking

- Volume 7, Issue #2 Page 412 January 12, 2001

Arizona Administrative Register
Notices of Final Rulemaking

5. Notify the applicable county health or environmental department within 30 days of closure.
- E.** Proprietary and other reviewed products.
 1. The Department shall maintain a list of proprietary and other reviewed products that may be used for on-site wastewater treatment facilities to comply with the requirements of this Article. The list shall include appropriate information on the applicability and limitations of each product.
 2. The list of proprietary and other reviewed products may include manufactured systems, subsystems, or components within the treatment works and disposal works if the products significantly contribute to the treatment performance of the system or provide the means to overcome site limitations. The Department shall not list components that do not significantly affect treatment performance or provide the means to overcome site limitations.
 3. A person may request that the Department add a product to the list of proprietary and other reviewed products. The request may include a proposed reference design for review. The Department may assess fees for product review.
 4. The Director may contract for services in administering this subsection.

R18-9-A310. Site Investigation For On-site Wastewater Treatment Facilities

- A.** Definition. For purposes of this Section, "clean water" means water free of colloidal material or additives that could affect chemical or physical properties if the water is used for percolation testing or testing of seepage pit performance.
- B.** The investigator shall perform a site investigation if an on-site wastewater treatment facility is proposed for installation. The applicant shall submit the following information in a format prescribed by the Department and shall provide sufficient data to:
 1. Determine if any of the following limiting conditions exist:
 - a. The soil absorption rate determined by the requirements of this Article is more than 1.20 gallons per square foot per day;
 - b. The soil absorption rate determined by the requirements of this Article is less than 0.13 gallons per square foot per day;
 - c. The vertical separation distance from the bottom of the lowest point of the disposal system to the seasonal high water table is less than the minimum vertical separation specified by R18-9-A312(E), or seasonal saturation at the surface occurs;
 - d. The surface slope is greater than 15% at the intended location of the on-site wastewater treatment facility;
 - e. Minimum setback distances are not within acceptable limits as specified in R18-9-A312(C);
 - f. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will cause surfacing of wastewater at the design flow rate or provide a direct conduit to the aquifer is less than the minimum vertical separation specified by R18-9-A312(E);
 - g. Surface drainage characteristics at the intended location of the on-site wastewater treatment facility will adversely affect the ability of the facility to function properly; or
 - h. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will convey wastewater to a water of the state to cause or contribute to a violation of an Aquifer Water Quality Standard established under A.R.S. Title 49, Chapter 2, Article 2 is less than the minimum vertical separation specified under R18-9-A312(E).
 2. Allow selection of an appropriate on-site wastewater treatment facility for the site considering all limiting conditions that exist;
 3. Effectively locate, design, and install a properly operating on-site wastewater treatment facility to serve the anticipated development at the site, whether or not limiting conditions exist.
- C.** The site investigation shall include the determination of soil characteristics using one or more of the following methods:
 1. "Standard Practice for Surface Site Characterization for On-site Septic Systems" published by the American Society for Testing and Materials, (D 5879-95^{E1}), approved December 10, 1995;
 2. "Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems," published by the American Society for Testing and Materials, (D 5921-96^{E1}), approved February 10, 1996;
 3. "Standard Practice for Soil Investigation and Sampling by Auger Borings," published by the American Society for Testing and Materials, (D 1452-80), reapproved 1995, if the depth to groundwater may be within the required minimum vertical separation from the bottom of the disposal field.
 - a. The information listed in subsections (C)(1), (C)(2) and (C)(3) is incorporated by reference and does not include any later amendments or editions of the incorporated matter.
 - b. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
 4. Percolation testing as specified in subsection (E);
 5. Seepage pit performance testing as specified in subsection (F);
 6. Other methods of soil evaluation, as approved by the Department, that ensure compliance with Aquifer Water Quality Standards through proper system location, selection, design, installation, and operation.
- D.** Applicability of soil characterization methods.

Arizona Administrative Register
Notices of Final Rulemaking

1. For a seepage pit constructed under the 4.02 General Permit, the investigator shall test seepage pit performance using the procedure specified in subsection (F).
2. Soil characterization using one or more of the American Society for Testing and Materials methods specified in subsections (C)(1), (C)(2), and (C)(3) shall be used if one or more of the following site conditions exists:
 - a. The natural surface slope at the intended location of the on-site wastewater treatment facility, including the disposal field reserve area, is greater than 15%;
 - b. Bedrock, or similar consolidated rock formation that cannot be excavated with a shovel, outcrops from the lot or is known to exist less than 10 feet below the land surface;
 - c. The native soil at the surface or encountered in a boring, trench, or hole consists of more than 35% rock fragments greater than three inches across;
 - d. The seasonal high water table is known to occur within 10 feet of the natural land surface or seasonal saturation at the natural land surface occurs as indicated by soil mottling, vegetation adapted to near-surface saturated soils, nearby springs, seeps, or surface water bodies, or well records that indicate high water table conditions beneath the intended location; or
 - e. A percolation test yields results outside the limits specified in subsection (B)(1)(a) and (B)(1)(b).
3. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) may be used to augment soil characterization specified in subsection (D)(2) if useful to locate or design an on-site wastewater treatment facility.
4. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) shall be used as the sole method of soil characterization if a soil characterization method specified in subsection (D)(2) is not required.
5. Unless testing under subsection (C)(5) is required, the Department shall accept a soil characterization method specified in subsection (D)(2) as the sole soil characterization method.

E. Percolation testing.

1. Planning and Preparation. The investigator shall:
 - a. Select a sufficient number of sites for percolation testing to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility and reserve drainfield. At least two sites shall be selected, one in the primary disposal area and one in the reserve disposal area;
 - b. Perform percolation testing at each site at appropriate depths within the soil profile to establish the absorption capability of the soil in the primary and reserve disposal areas and to help determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system. The investigator shall perform percolation tests at multiple depths if there is an indication of an obvious change in soil characteristics that appreciably affect the location, selection, design, installation, or disposal performance of the on-site wastewater treatment facility. The bottom of the percolation test hole is the reference elevation and depth for recordkeeping;
 - c. Excavate percolation test holes in undisturbed soil at least 12 inches deep with a cross section of 12 inches square, if square, or a diameter of 15 inches, if round. The investigator shall not alter the structure of the soil during the excavation;
 - d. Place percolation test holes away from site or soil features that yield unrepresentative or misleading data pertaining to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;
 - e. Scarify smeared soil surfaces within the percolation test holes and remove any loosened materials from the bottom of the hole; and
 - f. Use buckets with holes in the sides to support the sidewalls of the percolation test hole, if necessary. Any voids between the walls of the hole and the bucket shall be filled with pea gravel to reduce the impact of the enlarged hole.
2. Presoaking procedure. The investigator shall:
 - a. Fill the percolation test hole to a depth of 12 inches above the bottom of the hole with clean water;
 - b. Observe the decline of the water level in the hole and record time in minutes for the water to completely drain away;
 - c. Repeat the steps specified in subsection (E)(2)(a) and (E)(2)(b) if the water drains away in less than 60 minutes. If the water drains away the second time in less than 60 minutes, the inspector shall repeat the steps specified in subsections (E)(2)(a) and (E)(2)(b) again. If the water drains away again in less than 60 minutes, the percolation test shall be performed following subsection (E)(3); and
 - d. Add clean water to the hole after 60 minutes and maintain the water at a minimum depth of nine inches for at least four more hours if the water drains away in 60 minutes or greater. The inspector shall protect the hole from precipitation and runoff, and the percolation test specified in subsection (E)(3) shall be performed between 16 and 24 hours after presoaking.
3. Conducting the test. The investigator shall:

Arizona Administrative Register
Notices of Final Rulemaking

- a. Conduct the percolation test before soil hydraulic conditions established by the presoaking procedure substantially change. Any loose materials in the percolation test hole shall be removed to ensure that the specified dimensions of the hole are maintained and the infiltration surfaces are undisturbed native soil;
- b. Fill the test hole to a depth of six inches above the bottom with clean water;
- c. Observe the decline of the water level in the percolation test hole and determine and record the time in minutes for the water level to fall exactly one inch from a fixed reference point. The investigator shall immediately refill the hole with clean water to a depth of six inches above the bottom, and shall determine and record the time in minutes for the water level to fall exactly one inch. The hole again shall be immediately refilled with clean water to a depth of six inches above the bottom and the time for the water to fall exactly one inch shall be determined and recorded. The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the percolation rate of the test hole;
- d. Use the stabilized percolation rate as the basis for design if, when three consecutive measurements vary by no more than 10%. If three consecutive measurements indicate that the percolation rate results are not stabilizing or the percolation rate is between 60 and 120 minutes per inch, an alternate method based on a graphical solution of the test data shall be used to approximate the stabilized percolation rate; and
- e. Record the percolation rate results in minutes per inch. The submittal of percolation test results to the Department shall include a log of the soil formations encountered; the percent of rock fragments; the texture, structure, consistence, mottles, and depth to groundwater; whether and which test hole was reinforced with a bucket; and locations and depths or elevations of the percolation test holes on the site investigation map.

F. Seepage pit performance testing. An investigator shall test seepage pits described in R18-9-E302 as follows:

1. Planning and Preparation. The investigator shall:
 - a. Identify primary and reserve disposal areas at the site. A test hole at least 18 inches in diameter shall be drilled in the primary disposal area to the depth of the bottom of the proposed seepage pit, at least 30 feet deep;
 - b. Scarify soil surfaces within the test hole and remove loosened materials from the bottom of the hole.
2. Presoaking procedure. The investigator shall:
 - a. Fill the bottom six inches of the test hole with gravel, if necessary, to prevent scouring;
 - b. Fill the test hole with clean water up to three feet below the land surface;
 - c. Observe the decline of the water level in the hole and determine the time in hours and minutes for the water to completely drain away;
 - d. Repeat the procedure if the water drains away in less than four hours; If the water drains away the second time in less than four hours, then the seepage pit performance test shall be conducted following subsection (F)(3);
 - e. Add water to the hole and maintain the water at a depth that leaves at least the top three feet of hole exposed to air for at least four more hours if the water drains away in four or more hours;
 - f. Not remove the water from the hole before the seepage pit performance test if there is standing water in the hole after at least 16 hours of presoaking.
3. Conducting the test. The investigator shall:
 - a. Fill the test hole with clean water up to three feet below land surface;
 - b. Observe the decline of the water level in the hole and determine and record the vertical distance to the water level from a fixed reference point every 10 minutes; The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the rate of fall of the water level in the test hole;
 - c. Measure the decline of the water level continually until three consecutive 10-minute measurements indicate that the infiltration rates are within 10%. If measurements indicate that infiltration is not approaching a steady rate or if the rate is close to a numerical limit specified in R18-9-A312(E), an alternate method based on a graphical solution of the test data shall be used to approximate the final stabilized infiltration rate;
 - d. Submit the seepage pit performance test results to the Department, including:
 - i. Data, calculations, and findings on a form provided by the Department;
 - ii. The log of the test hole indicating lithologic characteristics and points of change; and
 - iii. The location of the test hole on the site investigation map.
 - e. Fill the test hole so that groundwater quality and public safety are not compromised if the seepage pit is drilled elsewhere or if a seepage pit cannot be sited at the location because of unfavorable test results.

G. Soil evaluation procedures. If one or more of the soil evaluation procedures specified by subsection (C)(1), (C)(2), or (C)(3) are used, the following rules apply and the investigator shall:

1. Ensure that the number of test locations selected for soil evaluation are sufficient to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility and reserve drainfield. The investigator shall select at least two test locations, one in the primary disposal area and one in the reserve disposal area;
2. Perform a soil evaluation at each test location at appropriate depths within the soil profile to establish the capability of the soil in the primary and reserve disposal areas to absorb wastewater, and determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system;

3. Not conduct soil evaluations near site or soil features that yield unrepresentative or misleading data relating to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;
4. Include the following in a soil evaluation:
 - a. A log of soil formations for each test location with information on soil type, texture, and classification; percent-age of rock; structure; consistence; and mottles;
 - b. A determination of depth to ground water below the land surface by test holes, published groundwater data, sub-division reports, or relevant well data; and
 - c. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(b), sufficient to allow location and design of the on-site wastewater treatment facility.

R18-9-A311. Facility Selection For On-site Wastewater Treatment Facilities

- A.** A person seeking to install an on-site wastewater treatment facility described in R18-9-E302 may install the facility if the site investigation conducted under R18-9-A310 indicates that none of the limiting site conditions described in R18-9-A310(B) exist at the site, except as provided in subsection (C).
 1. A seepage pit may be installed only in valley-fill sediments in a basin-and-range alluvial basin and only if the seepage pit performance test results meet the criteria specified in R18-9-A312(E).
 2. The Notice of Intent to Discharge shall specify that none of the limiting site conditions described in R18-9-A310(B) were identified at the site.
- B.** The on-site wastewater treatment facility for the site shall be selected, designed, and installed to overcome the identified site limitations.
 1. On-site treatment and disposal systems and technologies covered by Type 4 General Permits may be used alone or in combination to overcome the site limitations.
 2. An applicant may submit a single Notice of Intent to Discharge for a system consisting of components or technolo-gies covered by multiple general permits if the information submittal requirements of all the general permits are met.
 3. The Director shall, except in unusual circumstances, issue a single Provisional Verification of General Permit Con-formance established under R18-9-A301(D)(2) for the on-site wastewater treatment facility.
- C.** A person seeking to install an on-site wastewater treatment facility shall select a facility that is appropriate for the site's geographic location, setback limitations, slope, topography, soil classification, wastewater infiltration capability, and depth to seasonally high groundwater table or other limiting subsurface condition. An on-site wastewater treatment facil-ity described in R18-9-E302 shall not be used by itself at a site where limiting site conditions are identified, except the Department shall review and may approve a facility based on the procedures and conditions under R18-9-A312(G) if no more than one of the limiting site conditions specified by R18-9-A310(B)(1)(a), (B)(1)(b) or (B)(1)(d) exists.
- D.** If an on-site wastewater treatment facility, described in R18-9-E302, is suitable for a site and no limiting site conditions prevent its proper installation and operation, the Department shall not approve a system other than that described in R18-9-E302, unless the applicant supplies a statement with the Notice of Intent to Discharge justifying the use of a system not authorized under R18-9-E302.

R18-9-A312. Facility Design For On-site Wastewater Treatment Facilities

- A.** General design requirements. A person designing the on-site wastewater treatment facility shall:
 1. Sign design documents submitted as part of the Notice of Intent to Discharge or subsequently to obtain a Provisional Verification of General Permit Conformance, including plans, specifications, drawings, reports, and calculations; and
 2. Locate and design the on-site wastewater treatment facility project using good design judgement and rely on appro-priate design methods and calculations.
- B.** Design considerations and flow determination. A person designing the facility shall:
 1. Design the facility to satisfy a 20 year operational life;
 2. Design the facility based on design flow:
 - a. General Permits 4.02 through 4.22 apply only to facilities with a design flow of less than 3000 gallons per day.
 - b. General Permit 4.23 applies only to facilities with a design flow of 3000 gallons per day to less than 24,000 gal-lons per day;
 3. Use Table 1, Unit Daily Design Flows, to determine design flow;
 4. Apply the following design requirements to on-site wastewater treatment facilities permitted under R18-9-E303 through R18-9-E323, as applicable:
 - a. Include the power source and power components in construction drawings if electricity or another type of power is necessary for facility operation;
 - b. Perform a linear loading rate analysis for subsurface wastewater flow if the site investigation indicates that an impermeable layer or seasonal high water table exists less than 10 feet below the bottom of the disposal works;
 - c. Design components, piping, ports, seals, and appurtenances to withstand installation loads, internal and external operational loads, and buoyant forces. Ports shall be designed for firmness of position, and openings shall be capped or covered for protection;
 - d. Design tanks, liners, ports, seals, piping, and appurtenances for watertightness under all operational conditions;

Arizona Administrative Register
Notices of Final Rulemaking

- e. Provide adequate storage capacity above high operating level to:
 - i. Accommodate a 24-hour power or pump outage, and
 - ii. Contain wastewater that is incompletely treated or cannot be released by the disposal works to the native soil.
 - f. If a fixed media process is used, include the media material, installation specification, bed configuration, and wastewater loading rate at the daily design flow in construction drawings; and
 - g. Provide a fail-safe wastewater control mechanism, if required by the general permit, for total containment of incompletely treated wastewater.
- C. Setbacks.** The following setbacks apply unless the Department has authorized a different setback under the procedure specified in subsection (G), or has established a more stringent setback on a site- or area-specific basis to ensure compliance with water quality standards.

<u>Feature of Potential Impact</u>	<u>Setback Distance (feet)</u>	
	<u>Septic Tank</u>	<u>Disposal Trench, Bed, or Seepage Pit</u>
<u>Building (1)</u>	<u>10</u>	<u>10</u>
<u>Property line shared with adjoining land not served by a common drinking water system or an existing well (2)</u>	<u>50</u>	<u>50</u>
<u>All other property lines</u>	<u>5</u>	<u>5</u>
<u>Water supply well (public or private)</u>	<u>100</u>	<u>100</u>
<u>Perennial or intermittent stream (3)</u>	<u>100</u>	<u>100</u>
<u>Lake or reservoir (4)</u>	<u>100</u>	<u>100</u>
<u>Drinking water intake from a surface water source (includes an open water body, downgrade spring or a well tapping streamside saturated alluvium)</u>	<u>200</u>	<u>200</u>
<u>Drainage easement or wash with drainage area more than five acres (5)</u>	<u>50</u>	<u>50</u>
<u>Water main or branch water line</u>	<u>10</u>	<u>10</u>
<u>Domestic service water line (6)</u>	<u>5</u>	<u>5</u>
<u>Downslope cut banks and culvert or roadway ditches (7)</u>	<u>15</u>	<u>15</u>
<u>Driveway (8)</u>	<u>5</u>	<u>5</u>
<u>Swimming pool (9)</u>	<u>5</u>	<u>5</u>
<u>Easement (except drainage easement)</u>	<u>5</u>	<u>5</u>

Notes:

- (1) Includes porches, decks, and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks and driveways, and similar structures and appurtenances.
- (2) A common drinking water system is a system that currently serves or is under legal obligation to serve the property and may include a drinking water utility, a well sharing agreement, or other viable water supply agreement. A setback may be reduced to a minimum of five feet from the property line if:
 - a. The owners of any affected undeveloped adjacent properties agree by an appropriate written document to limit the location of any new well on their property to at least 100 feet from the proposed septic tank and primary and reserve disposal field areas; and
 - b. The arrangements and documentation are approved by the Department.
- (3) Measured from the limit of peak streamflow from a 10-year, 24-hour rainfall event.
- (4) Measured from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir.
- (5) Measured from the nearest edge of the defined natural channel bank or drainage easement whichever is less. A setback may be reduced to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.
- (6) The water line separation from sewer lines shall be as follows:
 - a. A water line crossing a sewer line at an angle of 45 to 90 degrees shall be one foot above the sewer line.
 - b. A water line crossing a sewer line at an angle of less than 45 degrees is not allowed.
 - c. A water line that is one to three feet from a sewer line but does not cross the sewer line shall be one foot above the sewer line and may be on a bench in the same trench or in a separate trench.

Notices of Final Rulemaking

d. A water line that is less than one foot from a sewer line but does not cross the sewer line is not allowed.

(7) Measured to the top of the cut bank or ditch or to the nearest sidewall of the culvert. The setback to a disposal trench, bed, or seepage pit is 15 feet or four times the elevation difference between the finished grade of the disposal trench, bed, or seepage pit and the elevation at the cut bank bottom, ditch bottom, or culvert invert, whichever is greater, up to 50 feet.

(8) Measured to the nearest edge of septic tank excavation. A properly reinforced septic tank and cover may be placed at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.

(9) A setback may be increased due to soil loading and stability concerns.

D. Soil absorption rate (SAR) and disposal field sizing.

1. If soil characterization and percolation test methods yield different SAR values or if multiple applications of the same approach yield different values, the designer of the disposal field shall use the most conservative value unless a less conservative value is proposed and justified to the Department's satisfaction in the Notice of Intent to Discharge.

2. The maximum SAR used to calculate disposal field size for systems described in R18-9-E302 is as follows:

a. The SAR by percolation testing as described in R18-9-A310(E)(3) for shallow and deep disposal fields is determined from the results of percolation tests:

<u>Percolation Rate from Percolation Test (minutes per inch)</u>	<u>SAR, Shallow Disposal Field (gal/day/ft²)</u>	<u>SAR, Deep Disposal Field (gal/day/ft²)</u>
<u>Less than 1.00</u>	<u>See Note</u>	<u>See Note</u>
<u>1.00 to less than 3.00</u>	<u>1.20</u>	<u>0.93</u>
<u>3.00</u>	<u>1.10</u>	<u>0.73</u>
<u>4.00</u>	<u>1.00</u>	<u>0.67</u>
<u>5.00</u>	<u>0.90</u>	<u>0.60</u>
<u>7.00</u>	<u>0.75</u>	<u>0.50</u>
<u>10.0</u>	<u>0.63</u>	<u>0.42</u>
<u>15.0</u>	<u>0.50</u>	<u>0.33</u>
<u>20.0</u>	<u>0.44</u>	<u>0.29</u>
<u>25.0</u>	<u>0.40</u>	<u>0.27</u>
<u>30.0</u>	<u>0.36</u>	<u>0.24</u>
<u>35.0</u>	<u>0.33</u>	<u>0.22</u>
<u>40.0</u>	<u>0.31</u>	<u>0.21</u>
<u>45.0</u>	<u>0.29</u>	<u>0.20</u>
<u>50.0</u>	<u>0.28</u>	<u>0.19</u>
<u>55.0</u>	<u>0.27</u>	<u>0.18</u>
<u>55.0+ to 60.0</u>	<u>0.25</u>	<u>0.17</u>
<u>60.0+ to 120</u>	<u>0.20</u>	<u>0.13</u>
<u>Greater than 120</u>	<u>See Note</u>	<u>See Note</u>

Note: A disposal field described in R18-9-E302 is not allowed unless approved by the Department under R18-9-A311(C).

b. The maximum SAR for shallow and deep disposal fields using the soil evaluation method described in R18-9-A310(G) is determined by answering the questions in the following table. The questions are read in sequence starting with "A." The first "yes" answer determines the maximum SAR used to calculate disposal field size for systems described in R18-9-E302.

Arizona Administrative Register
Notices of Final Rulemaking

<u>Sequence of Soil Characteristics Questions</u>	<u>SAR, Shallow Disposal Field System (gallons per day per square foot)</u>	<u>SAR, Deep Disposal Field System (gallons per day per square foot)</u>
A. Is the horizon gravelly coarse sand or coarser?	<u>See Note</u>	<u>See Note</u>
B. Is the structure of the horizon moderate or strongly platy?	<u>See Note</u>	<u>See Note</u>
C. Is the texture of the horizon sandy clay loam, clay loam, silty clay loam, or finer and the soil structure weak platy?	<u>See Note</u>	<u>See Note</u>
D. Is the moist consistency stronger than firm or any cemented class?	<u>See Note</u>	<u>See Note</u>
E. Is the texture sandy clay, clay, or silty clay of high clay content and the structure massive or weak?	<u>See Note</u>	<u>See Note</u>
F. Is the texture sandy clay loam, clay loam, silty clay loam, or silty loam and the structure massive?	<u>See Note</u>	<u>See Note</u>
G. Is the texture of the horizon loam or sandy loam and the structure massive?	<u>0.20</u>	<u>0.13</u>
H. Is the texture sandy clay, clay or silty clay of low clay content and the structure moderate or strong?	<u>0.20</u>	<u>0.13</u>
I. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure weak?	<u>0.20</u>	<u>0.13</u>
J. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure moderate or strong?	<u>0.40</u>	<u>0.27</u>
K. Is the texture sandy loam, loam, or silty loam and the structure weak?	<u>0.40</u>	<u>0.27</u>
L. Is the texture sandy loam, silt loam and the structure moderate or strong?	<u>0.60</u>	<u>0.40</u>
M. Is the texture fine sand, very fine sand, loamy fine sand, or loamy very fine sand?	<u>0.40</u>	<u>0.27</u>
N. Is the texture loamy sand or sand?	<u>0.80</u>	<u>0.53</u>
O. Is the texture coarse sand?	<u>1.20</u>	<u>See Note</u>

Note: A disposal field described in R18-9-E302 is not allowed, unless approved by the Department under R18-9-A311(C) and an applicable SAR is provided.

- c. For subsections (D)(2)(a) and (D)(2)(b), a shallow disposal field has a maximum depth below finished grade of five feet or less and a deep disposal field has a depth below finished grade of more than five feet.
3. For on-site wastewater treatment facilities described in a general permit other than R18-9-E302, the SAR is dependent on the ability of the facility to reduce the level of TSS and BOD₅ and is calculated using the following formula:

$$SAR_a = \left[\left(\frac{6.15}{\sqrt[3]{TSS + BOD_5}} - 1.01 \right) SAR^{1.28} + 1 \right] SAR$$

- a. “SAR_a” is the adjusted soil absorption rate for disposal field design in gallons per day per square foot,
- b. “TSS” is the total suspended solids in wastewater delivered to the disposal field in milligrams per liter,
- c. “BOD₅” is the five-day biochemical oxygen demand of wastewater delivered to the disposal field in milligrams per liter, and
- d. “SAR” is the soil absorption rate for septic tank wastewater determined by the percolation test or soil evaluation procedure described in R18-9-A310.

Arizona Administrative Register
Notices of Final Rulemaking

4. A person designing the facility shall ensure that the on-site wastewater treatment facility has a reserve disposal field with an area equivalent to at least 100% of the original disposal field determined by subsections (D)(1) through (D)(3) to allow installation of a reserve field if the original disposal field cannot absorb all of the wastewater. A person shall not impair the usefulness of the reserve area by division of the property, construction of structures, or improvements on the property.

E. Minimum vertical separation.

1. The minimum vertical separation from the bottom of the lowest point of the disposal system to the top of the nearest limiting subsurface condition described in R18-9-A310 (B)(1)(c), (B)(1)(f), and (B)(1)(i) for on-site wastewater treatment facilities described in R18-9-E302, is dependent on the soil absorption rate and is determined as follows:

<u>MAXIMUM SOIL ABSORPTION RATE</u> <u>(gallons per day per square foot)</u>			<u>MINIMUM VERTICAL SEPARATION</u> <u>(feet)</u>	
<u>Shallow Disposal Field</u>	<u>Deep Disposal Field</u>	<u>Seepage Pit</u>	<u>Shallow or Deep Disposal Field</u>	<u>Seepage Pit</u>
<u>1.20+</u>	<u>0.93+</u>	<u>1.20+</u>	<u>Not allowed for septic tank effluent</u>	<u>Not Allowed</u>
<u>0.63+ to 1.20</u>	<u>0.42 to 0.93</u>	<u>0.63+ to 1.20</u>	<u>10</u>	<u>60</u>
<u>0.20 to 0.63</u>	<u>0.13 to 0.42</u>	<u>0.36 to 0.63</u>	<u>5</u>	<u>25</u>
<u>Less than 0.20</u>	<u>Less than 0.13</u>	<u>Less than 0.36</u>	<u>Not allowed for septic tank effluent</u>	<u>Not Allowed</u>

2. The allowable minimum vertical separation from the bottom of the constructed disposal field to the top of the nearest limiting subsurface condition is dependent on the ability of the facility to reduce the level of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml) delivered to native soil below the disposal works at least 95% of the time. A treatment works, disposal works, or a combination of these works that achieves a treatment level specified in the following table may be used to determine the corresponding minimum vertical separation:

<u>Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal System (Log₁₀ of coliform concentration in cfu per 100 milliliters)</u>	<u>Minimum Vertical Separation (feet)</u>	
	<u>For SAR*, 0.20 to 0.63</u>	<u>For SAR*, 0.63+ to 1.20</u>
<u>8**</u>	<u>5</u>	<u>10</u>
<u>7</u>	<u>4</u>	<u>8</u>
<u>6</u>	<u>3.5</u>	<u>7</u>
<u>5</u>	<u>3</u>	<u>6</u>
<u>4</u>	<u>2.5</u>	<u>5</u>
<u>3</u>	<u>2</u>	<u>4</u>
<u>2</u>	<u>1.5</u>	<u>3</u>
<u>1</u>	<u>1</u>	<u>2</u>
<u>0***</u>	<u>0</u>	<u>0</u>

* Soil absorption rate from percolation testing or soil characterization, in gallons per square foot per day.

** Nominal value for a standard septic tank and disposal field (10⁸ colony forming units per 100 ml).

*** Nominally free of coliform bacteria.

3. To determine the minimum vertical separation, the nearest limiting subsurface condition means a property of the soil or a zone in the subsurface that critically restricts or critically and adversely accelerates downward percolation of wastewater. Limiting subsurface conditions may include, but are not limited to, the seasonal high water table capillary fringe, a substantially impermeable layer of soil or rock, fractured rock, or soil with greater than 50% rock fragments.

Arizona Administrative Register
Notices of Final Rulemaking

F. Materials and manufactured system components.

1. Materials. If no materials specifications are required under this Article, aggregate may be used in disposal trenches or for other uses in an on-site wastewater treatment facility.
2. Manufactured components.
 - a. If manufactured components are used, the on-site wastewater treatment facility shall be designed, installed and operated following the manufacturer's specifications. The process described in subsection (G) shall be used to propose any deviation that is less stringent than the manufacturer's specifications.
 - b. Treatment and containment components, mechanical equipment, instrumentation, and controls shall have monitoring, inspection, access and cleanout ports or covers, as appropriate, for monitoring and service.
 - c. Treatment and containment components, pipe, fittings, pumps, and related components and controls shall be durable, watertight, structurally sound, and capable of withstanding stress from installation and operational service.
 - d. Distribution lines for disposal fields shall be constructed of clay tile laid with open joints, perforated clay pipe, perforated high density polyethylene pipe, perforated ABS pipe, or perforated PVC pipe if the pipe is suitable for wastewater disposal use and sufficient openings are available for distribution of the wastewater into the trench or bed area.
3. Electronics components.
 - a. Instructions and a wiring diagram shall be mounted on the inside of a control panel cover.
 - b. The control panel shall be equipped with a multimode operation switch, red alarm light, buzzer, and reset button.
 - c. The multimode operation switch shall operate in the automatic position for normal system operation.
 - d. An anomalous condition shall be indicated by a glowing alarm light and sounding buzzer. The continued glowing of the alarm light after pressing the reset button shall signal the need for maintenance or repair of the system at the earliest practical opportunity.

G. Alternative design, installation, or operational features. When a person submits a Notice of Intent to Discharge, the person may request that the Department review and approve a feature of improved or alternative technology, design, setback, installation, or operation that differs from a general permit requirement in this Article.

1. The person shall make the request for an alternative feature of technology, design, installation, or operation on a form provided by the Department and include:
 - a. A description of the requested change;
 - b. A citation to the applicable design, installation, or operational requirement for which the change is being requested; and
 - c. Justification for the requested change, including any necessary supporting documentation.
2. The person shall submit the appropriate fee specified under 18 A.A.C. 14 for each requested change. For calculating the fee, a requested change that is applied multiple times in a similar manner throughout the facility is considered a single request if submitted for concurrent review.
3. The person shall provide sufficient information for the Department to determine that the change achieves equal or better performance compared with the general permit requirement, or addresses site or system conditions more satisfactorily than the requirements of this Article.
4. The Department shall review and may approve the request for change.
5. The Department shall deny the request for the change if the change adversely affects other permittees or causes or contributes to a violation of an Aquifer Water Quality Standard.
6. The Department shall deny the request for the change if the change:
 - a. Fails to achieve equal or better performance compared to the general permit requirement,
 - b. Fails to address site or system conditions more satisfactorily than the general permit requirement,
 - c. Is insufficiently justified based on the information provided in the submittal,
 - d. Requires excessive review time, research, or specialized expertise by the Department to act on the request, or
 - e. For any other justifiable cause.

R18-9-A313. Facility Installation and Operation and Maintenance Plan For On-site Wastewater Treatment Facilities

A. Facility installation. In addition to installation requirements in the general permit, the applicant shall ensure that the following tasks are performed, as applicable.

1. The facility is installed as described in design documents submitted with the Notice of Intent to Discharge;
2. Components are installed on a firm foundation that supports the components and operating loads;
3. The site is prepared to protect native soil beneath the soil absorption area and in adjacent areas from compaction, prevent smeared absorption surfaces, minimize disturbances from grubbing, and otherwise preclude damage to the disposal area that would impair performance;
4. Components are protected from damage at the construction site and installed in conformance with the manufacturer's instructions if consistent with this Article;
5. Treatment media is placed to achieve uniform density, prevent differential settling, produce a level inlet surface unless otherwise specified, and avoid introduction of construction contaminants;

6. Backfill is placed to prevent damage to geotextile, liner materials, tanks, and other components;
7. Soil cover is shaped to shed rainfall away from the backfill areas and prevent ponding of runoff; and
8. Anti-buoyancy measures are implemented during construction if temporary saturated backfill conditions are anticipated during construction.

B. Operation and maintenance. In addition to operation and maintenance requirements in the general permit or specified in the Operation and Maintenance Plan, the permittee shall perform the following tasks as applicable.

1. Inspect and clean pretreatment and wastewater distribution components;
2. Clean or backwash any effluent filters, and return cleaning water to the pretreatment headworks;
3. Inspect and clean the effluent baffle screen and pump tank, and properly dispose of cleaning residue;
4. Clean the dosing tank effluent screen, pump switches, and floats, and properly dispose of cleaning residue;
5. Flush lateral lines and return flush water to the pretreatment headworks;
6. Inspect, remove and replace, if necessary, and properly dispose of filter media;
7. Rod pressurized wastewater delivery lines and secondary distribution lines (for dosing systems), and return cleaning water to the pretreatment headworks;
8. Inspect and clean pump inlets and controls and return cleaning water to the pretreatment headworks;
9. Implement corrective measures if anomalous ponding, dryness, noise, odor, or differential settling is observed; and
10. Inspect and monitor inspection and access ports, as applicable, to verify that operation is within expected limits for:
 - a. Influent wastewater quality;
 - b. Pressurized dosing system operation;
 - c. Aggregate infiltration bed and mound system operation and performance;
 - d. Wastewater delivery and engineered pad operation and performance;
 - e. Pressurized delivery system, filter, underdrain, and native soil absorption system operation and performance;
 - f. Saturation condition status, operation and performance in peat and other media; and
 - g. Treatment system components.

R18-9-A314. Septic Tank Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

A. A septic tanks manufacturer shall assure that septic tanks approved for installation under this Article are:

1. Designed to produce a clarified effluent and provide adequate space for sludge and scum accumulations;
2. Watertight and constructed of solid durable materials not subject to excessive corrosion or decay;
3. Manufactured with at least two compartments unless two separate structures are placed in series. The manufacturer shall ensure that:
 - a. The inlet compartment of any septic tank not placed in series is nominally 67% to 75% of the total required capacity of the tank.
 - b. Septic tanks placed in series are considered a unit and meet the same criteria as a single tank.
 - c. The liquid depth of the septic tank is at least 42 inches.
 - d. A septic tank of 1000 gallon capacity is at least eight feet long and the tank length of septic tanks of greater capacity is at least two times but not more than three times the width.
4. Provided with at least two access openings to the tank interior, each at least 20 inches in diameter. The manufacturer shall ensure that:
 - a. One access opening is located over the inlet end of the tank and one access opening is located over the outlet end.
 - b. Whenever a first compartment exceeds 12 feet in length, another access opening is provided over the baffle wall.
 - c. Access openings and risers are constructed to ensure accessibility within six inches below finished grade.
5. Manufactured so that the sewage inlet and wastewater outlet openings are not less in size than the connecting sewer pipe. The manufacturer shall ensure that:
 - a. The vertical leg of round inlet and outlet fittings is at least four inches but not less in size than the connecting sewer pipe.
 - b. A baffle fitting has the equivalent cross-sectional area of the connecting sewer pipe and not less than a four inch horizontal dimension if measured at the inlet and outlet pipe inverts.
6. Manufactured so that the inlet and outlet pipe or baffle extends four inches above and at least 12 inches below the water surface when the tank is installed according to the manufacturer's instructions consistent with this Chapter. The invert of the inlet pipe shall be at least two inches above the invert of the outlet pipe;
7. Manufactured so that the inlet and outlet fittings or baffles and compartment partitions have a free vent area equal to the required cross-sectional area of the connected sewer pipe to provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, house sewer, and stack to the outer air;
8. Manufactured so that the side walls extend at least 12 inches above the liquid depth and the cover of the septic tank is at least two inches above the top of the inlet fitting vent opening;
9. Manufactured so that partitions or baffles between compartments are of solid durable material (wooden baffles are prohibited) and extend at least four inches above the liquid level. The manufacturer shall ensure that the open area of the baffle is between one and two times the open area of the inlet pipe or horizontal slot and located at the midpoint of the liquid level of the baffle. If a horizontal slot is used, the slot shall be no more than six inches in height;

Arizona Administrative Register
Notices of Final Rulemaking

10. Structurally designed to withstand all anticipated earth or other loads. The manufacturer shall ensure that:
 - a. All septic tank covers are capable of supporting an earth load of 300 pounds per square foot;
 - b. If the top of the tank is greater than two feet below finish grade, the septic tank and cover are capable of supporting an additional load of 150 pounds per square foot for each additional foot of cover;
11. Manufactured or installed so that the influent and effluent ends of the tank are clearly and permanently marked on the outside of the tank with the words "INLET" or "IN," and "OUTLET" or "OUT," above or to the right or left of the corresponding openings;
12. Clearly and permanently marked with the manufacturer's name or registered trademark, or both, the month and year of manufacture, the maximum recommended depth of earth cover in feet, and the design liquid capacity of the tank. The manufacturer shall protect the markings from corrosion so that they remain permanent and readable for the usable life of the tank.

B. Materials used to construct or manufacture septic tanks.

1. A person constructing a concrete septic tank cast-in-place at the site of use shall protect the tank from corrosion by coating the tank with a bituminous coating, constructing the tank using a concrete mix that incorporates 15% to 18% fly ash, or other Department-approved means. The manufacturer shall ensure that:
 - a. The coating extends at least four inches below the wastewater line and covers all of the internal area above that point.
 - b. A septic tank cast-in-place complies with the "Building Code Requirements for Structural Concrete (ACI 318-99) and Commentary (ACI 318R-99)," published by the American Concrete Institute, June 1999; and the "Environmental Engineering Concrete Structures (ACI 350R-89)," published by the American Concrete Institute, January 2000. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333-9094.
2. A septic tank manufacturer shall ensure that a steel septic tank has a minimum wall thickness of No. 12 U.S. gauge steel and is protected from corrosion, internally and externally, by a bituminous coating or other Department-approved means.
3. A septic tank manufacturer shall ensure that a prefabricated concrete septic tank complies with the "Standard Specification for Precast Concrete Septic Tanks," published by the American Society for Testing and Materials, (C 1227-00), approved January 10, 2000. This information is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
4. A septic tank manufacturer shall ensure that materials for fiberglass or polyethylene septic tanks comply with the "Material and Property Standards for Prefabricated Septic Tanks," published by the International Association of Plumbing and Mechanical Officials, (IAPMO PS 1-99), revised January 1999. This information is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Office of the Secretary of State. The material may be viewed at the Arizona Department of Environmental Quality, Water Quality Division, or obtained from International Association of Plumbing & Mechanical Officials, 20001 E. Walnut Drive, South, Walnut, CA 91789-2825.

C. If any conflict exists between this Article and the information incorporated by reference in subsections (B)(3) and (B)(4), the requirements of this Article apply. The Department may approve septic tanks constructed of alternative materials under R18-9-A312(G). Tanks constructed of wood, block, or bare steel are prohibited. The Department may inspect septic tanks at the site of manufacturing to verify compliance with subsections (A) through (C).

D. An applicant shall select a septic tank with a design liquid capacity as follows:

1. For a single residence, the design liquid capacity of a septic tank is governed by the following table:

<u>No. of Bedrooms</u>	<u>No. of Occupants</u>	<u>No. of Baths</u>	<u>Maximum Fixture Count</u>	<u>Minimum Septic Tank Size (gallons)</u>
<u>2</u>	<u>4</u>	<u>1-2</u>	<u>18</u>	<u>1000</u>
<u>3</u>	<u>6</u>	<u>1-2</u>	<u>18</u>	<u>1000</u>
<u>4</u>	<u>8</u>	<u>2-3</u>	<u>25</u>	<u>1250</u>
<u>5</u>	<u>10</u>	<u>2-4</u>	<u>32</u>	<u>1500</u>
<u>6</u>	<u>12</u>	<u>3-5</u>	<u>39</u>	<u>2000</u>
<u>7</u>	<u>14</u>	<u>3-5</u>	<u>42</u>	<u>2000</u>

2. For other than a single residence, the recommended design liquid capacity of a septic tank in gallons is 2.1 times the design flow into the tank as determined from *Table 1, Unit Daily Design Flows*.

Arizona Administrative Register
Notices of Final Rulemaking

3. An applicant may place septic tanks in series to meet the septic tank design liquid capacity requirements.
- E.** New or replacement septic tank installation. An applicant shall:
 1. Provide permanent surface markers for locating the septic tank access openings for maintenance;
 2. Ensure that septic tanks installed under concrete or pavement have the required access openings extended to grade;
 3. Install a septic tank effluent filter on all septic tanks. The applicant shall ensure that the filter:
 - a. Prevents the passage of solids larger than 1/8 inch in diameter while under two feet of hydrostatic head; and
 - b. Is constructed of materials that are resistant to corrosion and erosion and sized to accommodate hydraulic and organic loading.
 4. Test cast-in-place septic tanks and multi-part septic tanks assembled and sealed at the site of use for watertightness after installation by the water test or the vacuum test and repair, if necessary.
 - a. Water test.
 - i. The applicant shall ensure that the tank is filled with clean water to the invert of the outlet and the water left standing in the tank for 24 hours. The applicant shall:
 - (1) After 24 hours, refill the tank to the invert, if necessary;
 - (2) Record the initial water level and time; and
 - (3) After one hour, record the water level and time.
 - ii. The tank passes the water test if the water level dropped less than 1/4 inch over the one hour period. Any visible leak of flowing water is considered a failure. A damp or wet spot that is not flowing is not considered a failure.
 - b. Vacuum test.
 - i. The applicant shall:
 - (1) Seal the empty tank,
 - (2) Apply and stabilize a vacuum of two inches of mercury, and
 - (3) Monitor the vacuum for one hour.
 - ii. The tank passes the vacuum test if the mercury level dropped no more than 0.2 inches over the one hour period.

R18-9-A315. Interceptor Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

- A.** Interceptor requirement. An applicant shall ensure that an interceptor as required by R18-9-A309(A)(8)(c) or necessary due to excessive amounts of grease, garbage, sand, or other wastes in the sewage is installed between the sewage source and the on-site wastewater treatment facility.
- B.** Interceptor design. An applicant shall ensure that:
 1. An interceptor has not less than two compartments with fittings designed for grease retention and capable of removing excessive amounts of grease, garbage, sand, or other wastes. Applicable structural and materials requirements prescribed in R18-9-A314 apply.
 2. Interceptors are located as close to the source as possible and are accessible for servicing. The applicant shall ensure that access openings for servicing are at grade level and gas-tight.
 3. The applicant shall calculate interceptor size for grease and garbage from non-residential kitchens by the following equation: Interceptor Size (in gallons) = $M \times F \times T \times S$.
 - a. "M" is the number of meals per peak hour.
 - b. "F" is the waste flow rate from Table 1, Unit Daily Design Flows.
 - c. "T" is the estimated retention time:
 - i. Commercial kitchen waste, dishwasher or disposal: 2.5 hours;
 - ii. Single service kitchen with utensil wash disposal: 1.5 hours.
 - d. "S" is the estimated storage factor:
 - i. Fully equipped commercial kitchen, 8 hour operation: 1.0;
 - ii. Fully equipped commercial kitchen, 16 hour operation: 2.0;
 - iii. Fully equipped commercial kitchen, 24 hour operation: 3.0;
 - iv. Single service kitchen: 1.5.
 4. The applicant shall calculate interceptor size for silt and grease from laundries and laundromats by the following equation: Interceptor Size (in gallons) = $M \times C \times F \times T \times S$.
 - a. "M" is the number of machines.
 - b. "C" is the machine cycles per hour (assume 2).
 - c. "F" is the waste flow rate from Table 1, Unit Daily Design Flows.
 - d. "T" is the estimated retention time (assume 2), and
 - e. "S" is the estimated storage factor (assume 1.5 that allows for rock filter).
 5. The applicant may calculate the size of an interceptor using different factor values than those given in subsections (B)(4) and (B)(5) based on the values justified by the applicant in the Notice of Intent to Discharge submitted to the Department for the on-site wastewater treatment facility.

Arizona Administrative Register
Notices of Final Rulemaking

6. The Department may require installation of a sampling box if the volume or characteristics of the waste will impair the performance of the on-site wastewater treatment facility.

R18-9-A316. Transfer Inspection For On-site Wastewater Treatment Facilities

- A.** A person possessing working knowledge of the type of facility and the inspection process shall perform a transfer inspection of an on-site wastewater treatment facility.
- B.** The applicant shall send the Report of Inspection and Notice of Transfer forms required by R18-9-A304 and approved by the Department, and any applicable fee to the health or environmental agency delegated by the Director to administer the on-site wastewater treatment facility program.
 1. The Report of Inspection shall:
 - a. Indicate that the on-site wastewater treatment facility was inspected within six months before the deed of transfer for the property was recorded, and
 - b. Address the physical and operational condition of the on-site wastewater treatment facility and identify associated deficiencies.
 2. A copy of the Report of Inspection shall be transmitted to the buyer of the property.
- C.** This Section does not apply to the first sale of a house or property from a developer or subdivider to the buyer of the property.

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

- A.** A 1.01 General Permit allows any discharge of wash water from a sand and gravel operation, placer mining operation, or other similar activity, including construction, foundation, and underground dewatering, if only physical processes are employed and only hazardous substances at naturally occurring concentrations in the sand, gravel, or other rock material are present in the discharge.
- B.** A 1.02 General Permit allows any discharge from hydrostatic tests of a drinking water distribution system and pipelines not previously used, if all the following conditions are met:
 1. The quality of the water used for the test does not violate any Aquifer Water Quality Standard;
 2. The discharge is not to waters of the United States, unless the discharge is under a National Pollution Discharge Elimination System permit; and
 3. The test site is restored to its natural grade.
- C.** A 1.03 General Permit allows any discharge from hydrostatic tests of a pipeline previously used for transmission of fluid, other than those previously used for drinking water distribution systems, if all the following conditions are met:
 1. All liquid discharge is contained in an impoundment lined with flexible geomembrane material with a thickness of at least 10 mils;
 2. The liner material is placed over a layer, at least three inches thick, of well-sorted sand or finer grained material, or over an underliner determined by the Department to provide protection equal to or better than sand or finer grained material;
 3. Within 60 days after the end of a hydrostatic test, all test waters are evaporated or removed from the impoundment and taken to a treatment works or landfill approved under 18 A.A.C. 8 to accept the material. Any other methods for removal of the test waters shall be approved in advance by the Department;
 4. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity; and
 5. The test site is restored to its natural grade.
- D.** A 1.04 General Permit allows any discharge from a facility that, for water quality sampling, hydrologic parameter testing, well development, redevelopment, or potable water system maintenance and repair purposes, receives water, drilling fluids, or drill cuttings from a well if the discharge is to the same aquifer in approximately the same location from which the water supply was originally withdrawn, or the discharge is under a National Pollution Discharge Elimination System permit, or both.
- E.** A 1.05 General Permit allows an injection well, surface impoundment, and leach line to receive a discharge only of filter backwash from a potable water treatment system, condensate from a refrigeration unit, overflows from an evaporative cooler, heat exchange system return water, or swimming pool filter backwash if the discharge is less than 1000 gallons per day.
- F.** A 1.06 General Permit allows the burial of mining industry off-road motor vehicle waste tires at the mine site in a manner consistent with the cover requirements in R18-8-703.
- G.** A 1.07 General Permit allows the operation of dockside facilities and watercraft if the following conditions are met:
 1. Docks that service watercraft equipped with toilets provide sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths, or other plumbing fixtures at a dockside facility is discharged into waters of the state;
 2. Docks that service watercraft have conveniently located, toilet facilities for men and women;

Notices of Final Rulemaking

3. No boat, houseboat, or other type of watercraft is equipped with a marine toilet constructed and operated to discharge sewage directly or indirectly into waters of the state, nor is any container of sewage placed, left, discharged, or caused to be placed, left, or discharged in or near any water of the state by a person;
4. Watercraft with marine toilets constructed to allow sewage to be discharged directly into waters of the state are locked and sealed to prevent usage. Chemical or other type marine toilets with approved storage containers are permitted if dockside disposal facilities are provided; and
5. No bilge water or wastewater from sinks, showers, laundries, baths, or other plumbing fixtures on houseboats or other watercraft is discharged into waters of the state.
- H. A 1.08 General Permit allows for any earth pit privy authorized by a county health or environmental department under A.R.S. Title 36 or a delegation agreement under A.R.S. § 49-107.
- I. A 1.09 General Permit allows for a sewage treatment facility with flows less than 20,000 gallons per day operating under a general permit before January 1, 2001. The person who owns or operates the permitted facility shall not:
 1. Cause or contribute to a violation of a water quality standard.
 2. Expand the facility to accommodate increased flows.
 3. Treat flows that are not typical sewage.
 4. Treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5), or
 5. Create any environmental nuisance condition listed in A.R.S. § 49-141.

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

- A. A 2.01 General Permit allows for a drywell that drains an area where hazardous substances are used, stored, loaded, or treated.
- B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:
 1. The Department registration number for the drywell or documentation that a drywell registration form was submitted to the Department;
 2. For a drywell constructed before January 1, 2001, a certification signed and sealed by an Arizona-registered professional engineer or geologist that a site investigation has concluded either of the following:
 - a. Analytical results from sampling of the settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels or groundwater protection levels, or
 - b. Soil-borings or groundwater investigations indicate that an Aquifer Water Quality Standard in groundwater beneath the drywell has not been exceeded.
 3. A copy of the Best Management Practices Plan described in subsection (D)(5).
- C. Design requirements. An applicant shall:
 1. Locate the drywell no closer than 100 feet from a water supply well and 20 feet from an underground storage tank;
 2. Clearly mark the drywell "Storm Water Only" on the surface grate or manhole cover;
 3. Locate the bottom of the drywell hole at least 10 feet above the groundwater table. The applicant shall seal off any zone of perched water above the groundwater table from the drywell following the requirements established under 12 A.A.C. 15, Article 8; and
 4. Ensure that the drywell design includes a flow control or pretreatment device, such as an interceptor, sump, or another device or structure designed to remove, intercept, or collect pollutants.
- D. Operational requirements.
 1. A permittee shall operate the drywell only for the disposal of storm water.
 2. The permittee shall implement a Best Management Practices Plan for operation of the drywell and control of detrimental practices in the drywell drainage area.
 3. The permittee shall keep the Best Management Practices Plan on-site or at the closest practical place of work and provide the plan to the Department upon request.
 4. The permittee may substitute any Spill Prevention Containment and Control Plan, facility response plan, or National Pollutant Discharge Elimination System Storm Water Pollution Prevention Plan that meets the requirements of this subsection for a Best Management Practices Plan.
 5. The Best Management Practices Plan shall include:
 - a. A site plan showing surface drainage patterns and the location of floor drains, water supply, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas. The site plan shall show surface grading details designed to prevent drainage and spills of hazardous substances from leaving the drainage area and entering the drywell;
 - b. A design plan showing details of drywell design and drainage design, including flow control or pretreatment devices, such as interceptors, sumps, and other devices and structures designed to remove, intercept, and collect pollutants;

Arizona Administrative Register
Notices of Final Rulemaking

- c. Procedures to prevent and contain spills and minimize discharges to the drywell;
- d. Operational practices that include routine inspection and maintenance of the drywell, periodic inspection of waste storage facilities, and proper handling of hazardous substances to prevent discharges to the drywell; and
- e. Procedures for periodic employee training on practices required by the Best Management Practices Plan.
- E.** Recordkeeping. A permittee shall maintain a log book as part of the Best Management Practices Plan that documents drywell maintenance, inspections, employee training, and sampling activities.
- F.** Spills. The permittee shall notify the Department within 24 hours of any spill of hazardous substances exceeding the applicable reportable quantity established under 40 CFR 302.4, "Designation of Hazardous Substances," and 40 CFR 302.5, "Determination of Reportable Quantities," July 1, 1999 Edition, into the drywell or of any spill of petroleum products exceeding 25 gallons into the drywell. These regulations are incorporated by reference and do not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality and the Office of the Secretary of State.

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

- A.** A 2.02 General Permit allows for intermediate stockpiles not qualifying as inert under A.R.S. § 49-201(19) at a mining site.
- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge under R18-9-A301(B), an applicant shall submit the construction and operation specifications used to satisfy the requirements in subsection (C)(1).
- C.** Design and operational requirements.
 - 1. An applicant shall design, construct, and operate the stockpile so that it does not impound water. An applicant may rely on storm water run-on controls or facility design features, such as drains, or both.
 - 2. An applicant shall direct storm runoff contacting the stockpile to a mine pit or a facility covered by an individual or general permit.
 - 3. A permittee shall maintain any engineered feature designed to aid compliance with the permit in good working condition.
 - 4. A permittee shall visually inspect the features described in subsection (C)(1) at least quarterly. Any defects noted during the inspection shall be repaired as soon as practical.
 - 5. A permittee shall not add hazardous substances to the stockpiled material.
- D.** Closure requirements.
 - 1. If an intermediate stockpile covered under this general permit is permanently closed, a permittee shall remove any remaining material, to the greatest extent practical, and regrade the area to prevent impoundment of water.
 - 2. The permittee shall submit a narrative description of closure measures to the Department within 30 days after closure.

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

- A.** A 2.03 General Permit allows for discharge caused by the performance of tracer studies.
 - 1. This permit does not authorize the use of any hazardous substance, radioactive material, or any substance identified in A.R.S. § 49-243(I) in any tracer study.
 - 2. A single tracer test shall be completed within two years of the Notice of Intent to Discharge.
- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
 - 1. A narrative description of the tracer test including the type and amount of tracer used;
 - 2. A Material Safety Data Sheet for the tracer; and
 - 3. Unless the injection or distribution is within the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), the following information:
 - a. A narrative description of the impacts that may occur if a solution migrates outside the test area, including a list of downgradient users, if any;
 - b. The anticipated effects and expected concentrations, if possible to calculate; and
 - c. A description of the monitoring, including types of tests and frequency.
- C.** Design and operational requirements. A permittee shall:
 - 1. Ensure that injection into wells inside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed the total depth of the influence of the hydrologic sink;
 - 2. Ensure that injection into wells outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed rock fracture pressures during injection of the tracer;
 - 3. Not add substances to wells that are not compatible with their construction;
 - 4. Ensure that a tracer is compatible with the construction materials at the impoundment if a tracer is placed or collected in an existing impoundment;

5. Monitor any wells hydraulically downgradient of the test site for the tracer for at least two years on a quarterly basis if a tracer is used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) and less than 85% of the tracer is recovered. This period may be adjusted with the consent of the Department if the applicant can show that the hydraulic gradient causes the tracer to reach the monitoring point in a shorter or longer period of time;
6. Ensure that a tracer does not leave the site in concentrations distinguishable from background water quality; and
7. Monitor the amount of tracer used and recovered and submit a report summarizing the test and results to the Department within 30 calendar days of test completion.
- D. Recordkeeping. A permittee shall retain the following information at the site where the facility is located for at least three years after test completion and make it available to the Department upon request.
 1. Test protocols,
 2. Material Safety Data Sheet information,
 3. Recovery records, and
 4. A copy of the report submitted to the Department under subsection (C)(7).
- E. Closure requirements.
 1. If a tracer was used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G), a permittee shall account for any tracer not recovered through attenuation, modeling, or monitoring.
 2. Closure may occur immediately following the test, or if the test area is within a pollutant management area defined in an individual permit, at the conclusion of operations.

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

- A. A 3.01 General Permit allows a lined surface impoundment and a lined secondary containment structure. A permittee shall:
1. Ensure that inflow to the lined surface impoundment or lined secondary containment structure does not contain organic pollutants identified in A.R.S. § 49-243(I);
 2. Ensure that inflow to the lined surface impoundment or lined secondary containment structure is from one or more of the following sources:
 - a. Evaporative cooler overflow in excess of 1000 gallons per day;
 - b. Wastewater that does not contain sewage, temporarily stored for short periods of time due to process upsets or rainfall events, provided the wastewater is promptly removed from the facility as required under subsection (D)(5). Facilities that continually contain wastewater as a normal function of facility operations are not covered under this general permit;
 - c. Storm water runoff that is not permitted under A.R.S. § 49-245.01 because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act but is not considered storm water under the Act;
 - d. Emergency fire event water;
 - e. Wastewater from air pollution control devices at asphalt plants if the wastewater is routed through a sedimentation trap or sump and an oil/water separator before discharge;
 - f. Non-contact cooling tower blowdown and non-contact cooling water, except discharges from electric generating stations with more than 100 megawatts generating capacity;
 - g. Boiler blowdown;
 - h. Wastewater derived from a potable water treatment system including clarification sludge, filtration backwash, lime and lime softening sludge, ion exchange backwash, and reverse osmosis spent waste;
 - i. Wastewater from food washing;
 - j. Heat exchanger return water in excess of 1000 gallons per day; and
 - k. Wastewater from industrial laundries.
- B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A listing and description of all sources of inflow;
 2. A representative chemical analysis of each expected source of inflow. If a sample is not available before facility construction, a permittee shall provide the chemical analysis of each inflow to the Department within 60 days of each inflow to the facility;
 3. A narrative description of how the conditions of this general permit is satisfied. The narrative shall include a Quality Assurance/Quality Control program for liner installation, impoundment maintenance and repair, impoundment operational procedures; and
 4. A contingency plan that specifies actions to be taken in case of an accidental release from the facility, overtopping of the impoundment, or breach of the berm, and unauthorized inflows into the impoundment or containment structure.

Arizona Administrative Register
Notices of Final Rulemaking

C. Design and installation requirements. An applicant shall:

1. Design and construct surface water controls. The applicant shall:
 - a. Ensure that the impoundment or secondary containment structure maintains, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event. The facility shall maintain two feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment and meteorologic and other site-specific factors; and
 - b. Direct any surface water run-on from the 100-year 24-hour storm event not intended for capture by facility design around the facility.
2. Ensure that the facility accommodates any significant geologic hazard, addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;
3. Ensure that site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading and embankment, and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
4. Impoundment lining requirements. The applicant shall:
 - a. Ensure that the liner is at least a 30-mil geomembrane liner or a 60-mil liner if High Density Polyethylene is used, or an alternative, and that the liner's calculated seepage rate is less than 550 gallons per acre per day:
 - i. If a synthetic liner is used, the applicant shall anchor the liner by securing it in an engineered anchor trench; and
 - ii. The applicant shall ensure that the liner is ultraviolet resistant if it is regularly exposed to sunlight.
 - b. If a soil liner is used, ensure it resists swelling, shrinkage, and cracking. The applicant shall:
 - i. Ensure that the soil is at least one foot thick and compacted to a uniform density of 95% to meet the "Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft³)," (D 698-91), published by the American Society for Testing and Materials, reapproved 1998. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959; and
 - ii. Upon installation, protect the soil liner to prevent desiccation.
 - c. For new facilities, develop and implement a construction Quality Assurance/Quality Control program that addresses site and subgrade preparation, inspection procedures, field testing, laboratory testing, and final inspection after construction of the liner to ensure functional integrity.

D. Operational requirements. A permittee shall:

1. Maintain sufficient freeboard to manage the 100-year, 24-hour storm event plus two feet of freeboard under normal operating conditions. Management of the 100-year, 24-hour storm event may be through design, pumping, or a combination of both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity of the liner material and design capacity;
3. Perform and document a visual inspection for damage to the liner material and for accumulation of residual material at least monthly. The operator shall conduct an inspection within 72 hours after the facility receives a significant volume of storm water inflow;
4. Repair damage to the liner following the Quality Assurance/Quality Control Plan required under subsection (B)(3); and
5. Remove all inflow from the impoundment as soon as practical, but no later than 60 days after a temporary event, for facilities designed to contain inflow only for temporary events, such as process upsets.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
3. Capacity design criteria;
4. A list of standard operating procedures;
5. The construction Quality Assurance/Quality Control program documentation; and
6. Records of any inflow into the impoundment other than those permitted by this Section.

F. Reporting requirements.

1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.

2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4).
- G.** Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
 1. Remove any solid residue on the liner material and dispose of it appropriately;
 2. Inspect the liner material for evidence of holes, tears, or defective seams that could have leaked;
 3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall, within 60 days, notify the Department and submit an action plan for the Department's approval before implementing the plan;
 4. If there is no evidence of holes, tears, or defective seams that could have leaked:
 - a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
 - b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
 - c. Grade the facility to prevent the impoundment of water.
 5. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

- A.** A 3.02 General Permit allows filtration backwash and discharges obtained from sedimentation and coagulation in the water treatment process from facilities that treat water for industrial process or potable uses.
 1. The discharge shall meet all numeric Aquifer Water Quality Standards for inorganic chemicals, organic chemicals, and pesticides established in R18-11-406(B) through (D);
 2. The discharge shall meet one of the following criteria for microbiological contaminants:
 - a. A fecal coliform limit, using the membrane filter technique, of two colony forming units per 100 ml (seven-sample median) and a single-sample maximum limit of 23 colony forming units per 100 ml, or equivalent numbers using the multiple tube fermentation method; or
 - b. A seven-sample median limit of 200 colony forming units per 100 ml and a single-sample maximum limit of 800 colony forming units per 100 ml for fecal coliform, provided the average daily flow processed by the water treatment facility is less than 250,000 gallons.
- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
 1. A characterization of the discharge, including a representative chemical and biological analysis of expected discharges and all source waters; and
 2. The design capacity of any impoundment covered by this general permit.
- C.** Design and siting requirements. An applicant shall:
 1. Ensure that the depth to the static groundwater table is greater than 20 feet;
 2. Not locate the area of discharge immediately above karstic or fractured bedrock;
 3. Maintain a minimum horizontal setback of 100 feet between the facility and any water supply well;
 4. Design and construct an impoundment, used to manage process water discharges, to maintain, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event or may discharge to surface water under the conditions of a National Pollution Discharge Elimination System permit. The applicant shall:
 - a. Design the facility to maintain two feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment, meteorologic, and other site-specific factors; and
 - b. Divert any surface water run-on from the 100-year, 24-hour storm event not intended for capture by facility design around the facility.
 5. Manage off site disposal of sludges according to A.R.S. Title 49, Chapter 4.
- D.** Operational requirements.
 1. Inorganic chemical, organic chemical, and pesticide monitoring:
 - a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(1).
 - b. If the concentration of any constituent exceeds the numeric Aquifer Water Quality Standard, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency for that pollutant to quarterly.
 - c. If the condition in subsection (D)(1)(b) persists for two additional quarters, the permittee shall submit an application for an individual permit.
 2. Microbiological contaminants monitoring:
 - a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(2).

Arizona Administrative Register
Notices of Final Rulemaking

- b. If the concentration of any constituent exceeds the limits established in subsection (A)(2), the permittee shall submit a report to the Department with a proposal for mitigation and increase monitoring frequency for that pollutant to monthly.
 - c. If the condition in subsection (D)(2)(b) persists for three additional months, the permittee shall submit an application for an individual permit.
- E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
 - 1. Construction drawings and as-built drawings, if available;
 - 2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
 - 3. Water quality data collected under subsection (D);
 - 4. Standard operating procedures; and
 - 5. Records of any discharge other than those identified by subsection (B).
- F. Reporting requirements. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery.

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

- A. A 3.03 General Permit allows a facility that discharges water from washing vehicle exteriors and vehicle equipment. This general permit does not authorize:
 - 1. Discharge water that typically results from the washing of vehicle engines unless the discharge is to a lined surface impoundment;
 - 2. Direct discharges of sanitary sewage, vehicle lubricating oils, antifreeze, gasoline, paints, varnishes, solvents, pesticides, or fertilizers;
 - 3. Discharges resulting from washing the interior of vessels used to transport fuel products or chemicals, or washing equipment contaminated with fuel products or chemicals; or
 - 4. Discharges resulting from washing the interior of vehicles used to transport mining concentrates that originate from the same mine site, unless the discharge is to a lined surface impoundment.
- B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a narrative description of the facility and a design of the disposal system and wash operations.
- C. Design, installation, and testing requirements. An applicant shall:
 - 1. Design and construct the wash pad:
 - a. To drain and route wash water to a sump or similar sediment settling structure and an oil/water separator;
 - b. Of concrete or material chemically compatible with the wash water and its constituents; and
 - c. To support the maximum weight of the vehicle or equipment being washed with an appropriate safety factor.
 - 2. Not use unlined ditches or natural channels to convey wash water;
 - 3. Ensure that a surface impoundment meets the requirements in R18-9-D301(C)(1) and (C)(3). The applicant shall ensure that berms or dikes at the impoundment can withstand wave action erosion and are adequately compacted to a uniform density not less than 95%;
 - 4. Ensure that a surface impoundment required for wash water described in subsection (A)(1) meets the design and installation requirements in R18-9-D301(C);
 - 5. If wash water is received by an unlined surface impoundment or engineered subsurface disposal system, the applicant shall:
 - a. Ensure that the annual daily average flow is less than 3000 gallons per day;
 - b. Maintain a minimum horizontal setback of 100 feet between the impoundment or subsurface disposal system and any water supply well;
 - c. Ensure that the bottom of the surface impoundment or subsurface disposal system is at least 50 feet above the static groundwater level and the intervening material does not consist of karstic or fractured rock;
 - d. Ensure that the wash water receives primary treatment before discharge through, at a minimum, a sump or similar structure for settling sediments or solids and an oil/water separator designed to reduce oil and grease in the wastewater to 15 mg/l or less;
 - e. Withdraw the separated oil from the oil/water separator using equipment such as adjustable skimmers, automatic pump-out systems, or level sensing systems to signal manual pump-out; and
 - f. If a subsurface disposal system is used, design the system to prevent surfacing of the wash water.
- D. Operational requirements. The permittee shall:
 - 1. Inspect the oil/water separator before operation to ensure that there are no leaks and that the oil/water separator is in operable condition;
 - 2. Inspect the entire facility at least quarterly. The inspection shall, at a minimum, consist of a visual examination of the wash pad, the sump or similar structure, the oil/water separator, and all surface impoundments;
 - 3. Visually inspect each surface impoundment at least monthly, to ensure the volume of wash water is maintained within the design capacity and freeboard limitation;

Notices of Final Rulemaking

4. Repair damage to the integrity of the wash pad or impoundment liner as soon as practical;
 5. Maintain the oil/water separator to achieve the operational performance of the separator;
 6. Remove accumulated sediments in all surface impoundments to maintain design capacity; and
 7. Use best management practices to minimize the introduction of chemicals not typically associated with the wash operations. Only biodegradable surfactant or soaps are allowed. Products that contain chemicals in concentrations likely to cause a violation of an Aquifer Water Quality Standard at the applicable point of compliance are prohibited.
- E. Monitoring requirements.**
1. If wash water is discharged to an unlined surface impoundment or other area for subsurface disposal, the permittee shall monitor the wash water quarterly at the point of discharge for pH and for the presence of C₁₀ through C₃₂ hydrocarbons using a Department of Health Services certified method.
 2. If pH is not between 6.0 and 9.0 or the concentration of C₁₀ through C₃₂ hydrocarbons exceeds 50 mg/l, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency to monthly.
 3. If the condition in subsection (E)(2) persists for three additional months, the permittee shall submit an application for an individual permit.
- F. Recordkeeping.** A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available;
 2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure; and
 3. The Material Safety Data Sheets for the chemicals used in the wash operations and any required monitoring results.
- G. Closure requirements.** A permittee shall comply with the closure requirements specified in R18-9-D301(G) if a liner has been used. If no liner is used the permittee shall grade the facility to prevent impoundment of water.

R18-9-D304. 3.04 General Permit: Non-storm Water Impoundments at Mining Sites

- A. A 3.04 General Permit allows discharges to lined surface impoundments, lined secondary containment structures, and associated lined conveyance systems at mining sites.**
1. A discharge may include one or more of the following:
 - a. Seepage from tailing impoundments, unleached rock piles, or process areas;
 - b. Process solution temporarily stored for short periods of time due to process upsets or rainfall, provided the solution is promptly removed from the facility as required under subsection (D);
 - c. Storm water runoff not permitted under A.R.S. § 49-245.01 because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act and is not considered storm water under the Act; and
 - d. Wash water specific to sand and gravel operations not covered by R18-9-B301(A).
 2. Facilities that continually contain process solution as a normal function of facility operations are not eligible for coverage under this general permit. If a normal process solution contains a pollutant regulated under A.R.S. § 49-243(I) this general permit does not apply if the pollutant will compromise the integrity of the liner.
- B. Notice of Intent to Discharge.** In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A description of the sources of inflow to the facility. An applicant shall include a representative chemical analysis of expected sources of inflow to the facility unless a sample is not available, before facility construction, in which case the applicant shall provide a chemical analysis of solution present in the facility to the Department within 90 days after the solution first enters the facility;
 2. Documentation demonstrating that plans have been reviewed by a mining engineer or an Arizona-registered professional engineer before submission to the Department; and
 3. A contingency plan that specifies actions to be taken in case of an accidental release from the facility, overtopping of the impoundment or breach of the berm, and unauthorized inflows into the impoundment or containment structure.
- C. Design, construction, and installation requirements.** An applicant shall:
1. Design and construct the impoundment or secondary containment structure as specified under R18-9-D301(C)(1);
 2. Ensure that conveyance systems are capable of handling the peak flow from the 100-year storm;
 3. Construct the liner as specified in R18-9-D301(C)(4)(a);
 4. Develop and implement a Quality Assurance/Quality Control program that meets or exceeds the liner manufacturer's guidelines. The program shall address site and subgrade preparation, inspection procedures, field testing, laboratory testing, repair of seams during installation, and final inspection of the completed liner for functional integrity;
 5. If the facility is located in the 100-year flood plain, design the facility so it is protected from damage or flooding as a result of 100-year, 24-hour peak streamflows;
 6. Design and manage the facility so groundwater does not come into contact with the liner;
 7. Ensure that the facility accommodates any significant geologic hazard addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;

Arizona Administrative Register
Notices of Final Rulemaking

8. Ensure that the site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading and embankment, and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
9. Ensure that the liner is anchored by being secured in an engineered anchor trench. If regularly exposed to sunlight, the applicant shall ensure that the liner is ultraviolet resistant; and
10. Use compacted clay subgrade in areas with shallow groundwater conditions.

D. Operational requirements. The permittee shall:

1. Maintain the freeboard required in subsection (C)(1) through design, pumping, or both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity and the liner to maintain design capacity;
3. Document a visual inspection for cracks, tears, perforations and residual build-up at least monthly. The operator shall conduct an inspection after the facility receives significant volumes of storm water inflow;
4. Report cracks, tears, and perforations in the liner to the Department, and repair them as soon as practical, but no later than 60 days under normal operating conditions, after discovery of the crack, tear, or perforation;
5. For facilities that temporarily contain a process solution due to process upsets, remove the process solution from the facility as soon as practical, but no later than 60 days after cessation of the upset;
6. For facilities that temporarily contain a process solution due to rainfall, remove the process solution from the facility as soon as practical.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results and facility closure;
3. Capacity design criteria;
4. List of standard operating procedures;
5. The Quality Assurance/Quality Control program required under subsection (C)(4); and
6. Records of any unauthorized flows into the impoundment.

F. Reporting requirements.

1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3).

G. Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:

1. Remove any solid residue on the liner material and dispose of it appropriately;
2. Inspect the liner material for evidence of holes, tears, or defective seams that could have leaked;
3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall, within 60 days notify the Department and submit an action plan for the Department's approval before implementing the plan.
4. If there is no evidence of holes, tears, or defective seams that could have leaked:
 - a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment.
 - b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
 - c. Grade the facility to prevent the impoundment of water.
5. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

R18-9-D305. 3.05 General Permit: Disposal Wetlands

A. A 3.05 General Permit allows discharges of reclaimed water into constructed or natural wetlands, including waters of the United States, waters of the state, and riparian areas, for disposal. This general permit does not apply if the purpose of the wetlands is to provide treatment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the name and individual permit number of the facility providing the reclaimed water.

C. Design requirements. An applicant shall:

1. Ensure that the reclaimed water released into the wetland meets numeric and narrative Aquifer Water Quality Standards for all parameters except for coliform bacteria and is Class A+ reclaimed water. A+ reclaimed water is wastewater that has undergone secondary treatment established under R18-9-B204(B)(1), filtration, and meets a total nitrogen concentration less than 10 mg/l and fecal coliform limits under R18-9-B204(B)(4)(b);

2. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;
3. Post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER. DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol; and
4. Ensure that wetland siting is consistent with local zoning and land use requirements.

D. Operational requirements.

1. A permittee shall manage the wetland to minimize vector problems.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
 - a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
 - b. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
 - c. Management of visitation and use of the wetlands by the public;
 - d. A management plan for vector control;
 - e. A plan or criteria for enhancing or supplementing of wetland vegetation; and
 - f. Management of shallow groundwater conditions on existing on-site wastewater treatment facilities.
3. The permittee shall perform quarterly inspections to review bank integrity, erosion evidence, the condition of signage and vegetation, and correct any problem noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built drawings, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

- A.** A 3.06 General Permit allows the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a closed facility.
- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a design, including information on the quality of the influent, the treatment process to be used, the expected quality of the wastewater, and the nutrients and other constituents that will indicate wetland performance.
- C. Design, construction, and installation.** An applicant shall:
1. Ensure that:
 - a. Water released into the wetland is compatible with construction materials and vegetation;
 - b. Water released from the wetland meets numeric Aquifer Water Quality Standards, pH is between 6.0 and 9.0, and sulfate concentration is less than 1000 mg/l.; and
 - c. Water released from the wetland complies with and is released under an individual permit and a National Pollution Discharge Elimination System Permit, if required.
 2. Construct the treatment wetland with a liner, using low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
 - a. Ensure that, if an artificial liner material is used, such as geomembrane, the material is underlain by at least six inches of prepared and compacted subgrade;
 - b. Anchor the liner along the perimeter of the wetland; and
 - c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance.
 3. Design the treatment wetland for optimum:
 - a. Sizing appropriate for the anticipated treatment.
 - b. Cell configuration.
 - c. Vegetative species composition, and
 - d. Berm configuration.
 4. Construct and locate the treatment wetland so that it:
 - a. Maintains physical integrity during a 100-year, 24-hour storm event; and
 - b. Operates properly during a 25-year, 24-hour storm event.
 5. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table.
 6. If public access to the wetland is anticipated or encouraged, post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN MINE DRAINAGE WATER. DO NOT DRINK." The permittee shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol.

Arizona Administrative Register
Notices of Final Rulemaking

D. Operational requirements.

1. The permittee shall monitor the water leaving the wetlands at least quarterly for the standards specified in subsection (C)(1)(b). Monitoring shall include nutrients or other constituents used as indicators of wetland performance.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
 - a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
 - b. A contingency plan to address problems, including treatment performance, wash-out and vegetation die-off, and a plan to apply for an individual permit if the wetland is unable to achieve the treatment standards in subsection (C)(1)(b) on a continued basis;
 - c. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
 - d. A description of the measures for restricting access to the wetlands by the public;
 - e. A management plan for vector control; and
 - f. A plan or criteria for enhancing or supplementing wetland vegetation.
3. The permittee shall perform quarterly inspections to review the bank and liner integrity, erosion evidence, and the condition of signage and vegetation, and correct any problems noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built drawings, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements.

1. If preliminary laboratory result indicates that the quality of the water leaving the wetlands does not meet the standards specified in subsection (C)(1)(b), the permittee may request that the laboratory re-analyze the sample before reporting the results to the Department. The permittee shall:
 - a. Conduct verification sampling within 15 days of receiving final laboratory results.
 - b. Conduct verification sampling only for parameters that are present in concentrations greater than the standards specified in subsection (C)(1)(b), and
 - c. Notify the Department in writing within five days of receiving final laboratory results.
2. If the final laboratory result confirms that the quality of the water leaving the wetlands does not meet the standards in subsection (C)(1)(b), the permittee shall implement the contingency plan required by subsection (D)(2)(b) and notify the Department that the plan is being implemented.
3. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

A. A 3.07 General Permit allows constructed wetlands that receive with the intent to treat, discharges of reclaimed water that meet the secondary treatment level requirements specified in R18-9-B204(B)(1).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:

1. The name and individual permit number of any facility that provides the reclaimed water to the wetland;
2. The name and individual permit number of any facility that receives water released from the wetland;
3. The design of the wetland construction and management project, including information on the quality of the influent, the treatment process, and the expected quality of the wastewater;
4. A Best Management Practices Plan that includes:
 - a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
 - b. A contingency plan to address any problem, including treatment performance, wash-out, and vegetation die-off;
 - c. A management plan for flows into and through the wetland to minimize erosion and damage to vegetation;
 - d. A description of the measures for restricting access to the wetlands by the public;
 - e. A management plan for vector control; and
 - f. A plan or criteria for enhancing or supplementing wetland vegetation.

C. Design requirements. An applicant shall:

1. Release water from the wetland under an individual permit and a National Pollution Discharge Elimination System permit, if required. The applicant shall release water from the wetland only to a direct reuse site if the site is permitted to receive reclaimed water of the quality generated under the individual permit specified in subsection (B)(1);
2. Construct and locate the treatment wetland so that it:
 - a. Maintains physical integrity during a 100-year, 24-hour storm event, and
 - b. Operates properly during a 25-year, 24-hour storm event.
3. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table;
4. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;

Notices of Final Rulemaking

5. Maintain a minimum 1000 foot setback between the property boundary at the site and the maximum wetted area of the wetland;
 6. Fence the wetland area to prevent unauthorized access;
 7. Post signs at points of access stating "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER. DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol;
 8. Construct the treatment wetland with a liner using low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
 - a. Ensure that if an artificial liner material is used, such as geomembrane, the material is underlain by at least six inches of prepared and compacted subgrade;
 - b. Anchor the liner along the perimeter of the wetland; and
 - c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance.
 9. Calculate the size and depth of the wetland so that the rate of flow allows adequate treatment detention time. The applicant shall design the wetland with at least two parallel treatment cells to allow for efficient system operation and maintenance;
 10. Ensure that the wetland vegetation includes cattails, bulrush, common reed, or other species of plants with high pollutant treatment potential to achieve the intended water quality identified in subsection (B)(3); and
 11. Ensure that construction and operation of the wetlands is consistent with local zoning and land use requirements.
- D. Operational requirements. The permittee shall:**
1. Implement an approved Best Management Practices Plan;
 2. Monitor wastewater leaving the treatment wetland to ensure that discharge water quality meets the intended treatment specified in subsection (A)(3). The permittee shall ensure that analyses of wastewater samples are conducted by a laboratory certified by the Department of Health Services, following the Department's Quality Assurance/Quality Control requirements;
 3. Follow the prescribed measures as required in the contingency plan under subsection (B)(4)(b) and report to the Department within five days if verification sampling demonstrates that an alert level or discharge limit is exceeded;
 4. Inspect the wetlands at least quarterly for bank and liner integrity, erosion evidence, and condition of signage and vegetation, and correct any problem discovered; and
 5. Ensure that the wetland is operated by a certified operator.
- E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:**
1. Construction drawings and as-built drawings, if available; and
 2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.
- F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.**

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

- A. A 4.01 General Permit allows a new sewage collection system or an expansion of an existing sewage collection system involving new construction.**
1. A sewer collection system includes all sewer lines and associated structures, devices, and appurtenances that:
 - a. Are owned or controlled by a public or private sewer utility extending from the treatment works to the upstream points in the system where private owners assume ownership or control; or
 - b. Serve multiple private users from the upstream points where the individual users assume ownership or control to the downstream point where the sewer delivers wastewater to a sewage collection system owned or controlled by a public or private sewer utility, or to a sewage treatment facility.
 2. A sewer collection system repair is not an expansion of the system that requires a Notice of Intent to Discharge. Repairs include work performed in response to deterioration of existing structures, devices, and appurtenances with the intent to maintain or restore the system to its original operational characteristics.
- B. Performance. An applicant shall design, construct, and operate a sewage collection system so that it:**
1. Provides adequate wastewater flow capacity for the planned service;
 2. Minimizes sedimentation, blockage, and erosion through maintenance of proper flow velocities throughout the system;
 3. Prevents sanitary sewer overflows through appropriate sizing, capacities, and inflow and infiltration prevention measures throughout the system;
 4. Protects water quality through minimization of exfiltration losses from the system;
 5. Provides for adequate inspection, maintenance, testing, visibility, and accessibility; and

Arizona Administrative Register
Notices of Final Rulemaking

6. Maintains system structural integrity.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information:

1. A statement, signed by the owner or operator of the sewage treatment facility that treats or processes the sewage from the proposed sewer collection system.
 - a. The owner or operator shall affirm that the additional volume of wastewater delivered to the facility by the proposed sewer collection system will not cause any flow or effluent quality limits of the individual permit for the facility to be exceeded.
 - b. If the facility is classified as a groundwater protection permit facility under A.R.S. § 49-241.01(C), or if no flow or effluent limits are applicable, the owner or operator shall affirm that the design flow of the facility will not be exceeded.
2. If the proposed sewage collection system delivers wastewater to a downstream sewer collection system under different ownership or control, a statement, signed by the owner or operator of the downstream sewer collection system, affirming that the downstream system can maintain the performance required by subsection (B) if it receives the increased flows associated with the new system or the expansion;
3. A general site plan showing the boundaries and key aspects of the project;
4. Construction quality drawings that provide overall details of the site and the engineered works comprising the project including:
 - a. Relevant plans and profiles of sewer lines, force mains, manholes, and lift stations with sufficient detail to allow Department verification of design and performance characteristics;
 - b. Relevant cross sections showing construction details and elevations of key components of the sewer collection system to allow Department verification of design and performance characteristics, including the slope of each gravity sewer segment stated as a percentage; and
 - c. Drainage features and controls, and erosion protection as applicable, for the components of the project.
5. Documentation of design flows for significant components of the sewage collection system and the basis for calculating the design flows;
6. An operation and maintenance plan if the project has a design flow of more than 10,000 gallons per day;
7. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. The applicant may submit the drawings in a Department-approved electronic format; and
8. Design documents, including plans, specifications, drawings, reports, and calculations that are signed and sealed by an Arizona-registered professional engineer unless prohibited by law. The designer shall use good engineering judgment following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance.

D. Design requirements.

1. General Provisions. An applicant shall ensure that the design, installation, and testing of a new sewage collection system or an expansion to an existing sewage collection system involving new construction complies with the following rules. An applicant shall:
 - a. Base design flows for components of the system on unit flows specified in *Table 1, Unit Daily Design Flows*. If documented by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low flow fixtures.
 - b. Use the "Uniform Standard Specifications for Public Works Construction," referenced in this Section and published by the Maricopa Association of Governments, revisions through 2000, or the "Pima County Wastewater Management," November 1994 Edition, as the applicable design and construction criteria, unless the Department approved alternative design standards or specifications authorized by a delegation agreement under A.R.S. § 49-107.
 - c. Use gravity sewer lines, if appropriate. The applicant shall design gravity sewer lines and all other sewer collection system components, including force mains, manholes, lift stations, and appurtenant devices and structures to accommodate maximum sewage flows as determined by the method specified in subsections (D)(1)(c)(i) or (D)(1)(c)(ii) that yields the greatest calculated flow:
 - i. Any point in a sewer main when flowing full can accommodate an average flow of 100 gallons per capita per day for all populations upstream from that point, or
 - ii. Any point in a sewer collection system can accommodate a peak flow for all populations upstream from that point as tabulated below:

Arizona Administrative Register
Notices of Final Rulemaking

<u>Upstream Population</u>	<u>Peaking Factor</u>
<u>100</u>	<u>3.62</u>
<u>200</u>	<u>3.14</u>
<u>300</u>	<u>2.90</u>
<u>400</u>	<u>2.74</u>
<u>500</u>	<u>2.64</u>
<u>600</u>	<u>2.56</u>
<u>700</u>	<u>2.50</u>
<u>800</u>	<u>2.46</u>
<u>900</u>	<u>2.42</u>
<u>1000</u>	<u>2.38</u>
<u>1001 to 10,000</u>	<u>$PF = (6.330 \times p^{-0.231}) + 1.094$</u>
<u>10,001 to 100,000</u>	<u>$PF = (6.177 \times p^{-0.233}) + 1.128$</u>
<u>More than 100,000</u>	<u>$PF = (4.500 \times p^{-0.174}) + 0.945$</u>

PF = Peaking Factor

p = Upstream Population

- d. Ensure the separation of sewage collection system components from drinking water distribution system components under R18-4-502.
- e. Request review and approval of an alternative to a design feature specified in this Section by following the requirements of R18-9-A312(G).
2. Gravity sewer lines. An applicant shall:
 - a. Ensure that any sewer line that runs between manholes, if not straight, is of constant horizontal curvature with a radius of curvature not less than 200 feet;
 - b. Cover each sewer line with at least three feet of backfill meeting the requirements of subsection (D)(2)(h)(i). The applicant shall:
 - i. Include at least one note specifying this requirement in construction plans;
 - ii. If site-specific limitations prevent three feet of earth cover, provide the maximum cover attainable, and construct the sewer line of ductile iron pipe or other materials of equivalent or greater tensile and compressive strength;
 - iii. If ductile iron pipe is not used, design and construct the sewer line pipe with restrained joints or an equivalent feature; and
 - iv. Ensure that the design of the pipe and joints can withstand crushing or shearing from any expected load. Construction plans shall note locations requiring these measures.
 - c. If sewer lines cross floodways, place the lines at least two feet below the 100-year storm scour depth and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection. The applicant shall ensure that sewer lines constructed in this manner extend at least 10 feet beyond the boundary of the 100-year storm scouring. Construction plans shall note locations requiring these measures.
 - d. Ensure that each sewer line is eight inches in diameter or larger except:
 - i. The first 400 feet of a dead end sewer line with no potential for extension may be six inches in diameter if the design flow criteria specified in subsection (D)(1)(c) are met. If the line is ever extended, the applicant seeking the extension shall replace the entire length with larger pipe to accommodate the new design flow;
or
 - ii. The sewer lines for a sewage collection system for a manufactured home, mobile home, or recreational vehicle park are not less than four-inches in diameter for up to 20 units, five-inches in diameter for 21 to 36 units, and six-inches in diameter for 37 to 60 units.
 - e. Design sewer lines with at least the minimum slope calculated from Manning's Formula using a coefficient of roughness of 0.013 and a sewage velocity of two feet per second when flowing full.
 - i. An applicant may request a smaller minimum slope under R18-9-A312(G) if the smaller slope is justified by a quarterly program of inspections, flushings, and cleanings.
 - ii. If a smaller minimum slope is requested, the slope shall not be less than 50% of that calculated from Manning's formula using a coefficient of roughness of 0.013 and a sewage velocity of two feet per second.
 - f. Design sewer lines to avoid a slope that creates a sewage velocity greater than 10 feet per second. The applicant shall construct any sewer line carrying a flow with a normal velocity of greater than 10 feet per second using ductile iron pipe or pipe with equivalent erosion resistance, and structurally reinforce the receiving manhole or sewer main.

Arizona Administrative Register
Notices of Final Rulemaking

- g. Design and install sewer lines, connections, and fittings with materials that meet or exceed manufacturer's specifications not inconsistent with this Chapter to:
- i. Limit inflows, infiltration, and exfiltration;
 - ii. Resist corrosion in the project electrochemical environment;
 - iii. Withstand anticipated live and dead loads; and
 - iv. Provide internal erosion protection.
- h. Indicate trenching and bedding details applicable for each pipe material and size in the design plans. Sewer lines shall be placed in trenches and bedded following the specifications established in subsections (D)(2)(h)(i) and (D)(2)(h)(ii). This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.
- i. "Trench Excavation, Backfilling, and Compaction" (Section 601), published in the "Uniform Standard Specifications for Public Works Construction," published by the Maricopa Association of Governments, revisions through 2000; and
 - ii. "Rigid Pipe Bedding for Sanitary Sewers" (WWM 104), and "Flexible Pipe Bedding for Sanitary Sewers" (WWM 105), published by Pima County Wastewater Management, revised November 1994.
- i. Perform a deflection test of the total length of all sewer lines made of flexible materials to ensure that the installation meets or exceeds the manufacturer's recommendations and record the results.
- j. Test each segment of the sewer line for leakage using the applicable method below and record the results:
- i. "Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air" published by the American Society for Testing and Materials, (F 1417-92), reapproved 1998;
 - ii. "Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method" published by the American Society for Testing and Materials, (C 924-89), reapproved 1997;
 - iii. "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines" published by the American Society for Testing and Materials, (C 828-98), approved March 10, 1998; or
 - iv. The material listed in subsections (D)(2)(j)(i), (D)(2)(j)(ii), and (D)(2)(j)(iii) is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
- k. Test the total length of the sewer line for uniform slope by lamp lighting, remote camera or similar method approved by the Department, and record the results.
3. Manholes.
- a. An applicant shall install manholes at all grade changes, all size changes, all alignment changes, all sewer inter-sections, and at any location necessary to comply with the following spacing requirements:

<u>Sewer Pipe Diameter (inches)</u>	<u>Maximum Manhole Spacing (feet)</u>
4 to less than 8	300
8 to less than 18	500
18 to less than 36	600
36 to less than 60	800
60 or greater	1300

- b. The Department shall allow greater manhole spacing following the procedure provided in R18-9-A312(G) if documentation is provided showing the operator possesses or has available specialized sewer cleaning equipment suitable for the increased spacing.
- c. The applicant shall ensure that manhole design is consistent with "Pre-cast Concrete Sewer Manhole" (#420), "Offset Manhole for 8" - 30" Pipe" (#421), and "Brick Sewer Manhole and Cover Frame Adjustment" (#422), 1998, including revisions through 2000, published by the Maricopa Association of Governments; and "Manholes and Appurtenant Items" (WWM 201 through WWM 211), Standard Details for Public Improvements, 1994 Edition, published by Pima County Wastewater Management.
- d. The material specified in subsection (D)(3)(c) is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.

Arizona Administrative Register
Notices of Final Rulemaking

- e. The applicant shall not locate manholes in areas subject to more than incidental runoff from rain falling in the immediate vicinity unless the manhole cover assembly is designed to restrict or eliminate storm water inflow.
 - f. The applicant shall test manholes using one of the following test protocols:
 - i. Watertightness testing by filling the manhole with water. The applicant shall ensure that the drop in water level does not exceed 0.001 of total manhole volume in one hour.
 - ii. Air pressure testing using the "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test," published by the American Society for Testing and Materials, (C 1244-93), approved August 15, 1993. This material is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Office of the Secretary of State. The material may be viewed at the Department of Environmental Quality, Water Quality Division, or obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
 - g. The applicant shall perform manhole testing under subsection (D)(3)(f) after installation of the manhole cone to verify watertightness of the manhole from the top of the cone down.
 - i. Upon satisfactory test results, the applicant shall install the manhole ring and any spacers, complete the joints, and seal the manhole to a watertight condition.
 - ii. If the manhole cone, spacers, and ring can be installed to final grade without disturbance or adjustment by later construction, the applicant may perform the testing from the top of the manhole ring on down.
 - h. The applicant shall locate a manhole to provide adequate visibility and vehicular maintenance accessibility after the manhole has been built.
4. Force mains. If it is impractical to install a gravity sewer line system, an applicant may install a force main if it meets the following design, installation, and testing requirements. The applicant shall:
- a. Design force mains to maintain a minimum flow velocity of three feet per second and a maximum flow velocity of seven feet per second.
 - b. Ensure that force mains have the appropriate valves and controls required to prevent drainback to the lift station. If drainback is necessary during cold weather to prevent freezing, the control system may allow manual or automatic drainback.
 - c. Incorporate air release valves or other appropriate components in force mains at all high points along the line to eliminate air accumulation. If engineering calculations provided by the applicant demonstrate that air will not accumulate in a given high point under typical flow conditions, the Department shall waive the requirement for an air release valve.
 - d. Provide thrust blocks or restrained joints if needed to prevent excessive movement of the force main. Construction plans shall show thrust block or restrained joint locations and details. The documentation submitted to the Department for verification of the general permit shall include calculations and analysis of water hammer potential and surge control measures and shall be signed and sealed by an Arizona-registered professional engineer.
 - e. If a force main is proposed to discharge directly to a sewage treatment facility without entering a flow equalization basin, include in the Notice of Intent to Discharge a statement from the owner or operator of the sewage treatment facility that the design is acceptable.
 - f. Design a force main to withstand, and upon completion test the force main for leakage, at a pressure of 50 pounds per square inch or more above the design working pressure.
 - g. Supply flow to a force main using a lift station that meets the requirements of subsection (D)(5).
5. Lift stations. An applicant shall:
- a. Secure a lift station to prevent tampering and affix on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least one warning sign that includes the 24-hour emergency phone number of the owner or operator of the collection system;
 - b. Protect lift stations from physical damage from a 100-year flood event. Construction of a lift station is prohibited in a floodway;
 - c. Lift station wet well design. The applicant shall:
 - i. Ensure that the minimum wet well volume in gallons shall be 1/4 of the product of the minimum pump cycle time, in minutes, and the total pump capacity, in gallons per minute;
 - ii. Protect the wet well against corrosion to provide at least a 20-year design life;
 - iii. Ensure that wet well volume does not allow the sewage retention time to exceed 30 minutes unless the sewage is aerated, chemicals are added to prevent or eliminate hydrogen sulfide formation, or adequate ventilation is provided. Notwithstanding these measures, the applicant shall not allow the septic condition of the sewage to adversely affect downstream collection systems or sewage treatment facility performance;
 - iv. Ensure that excessively high or low levels of sewage in the wet well trigger an audible or visual alarm at the wet well site and at the system control center; and
 - v. Ensure that a wet well designed to accommodate more than 5000 gallons per day has a horizontal open cross-sectional area of at least 20 square feet.
 - d. Equip a lift station wet well with at least two pumps. The applicant shall ensure that:

Notices of Final Rulemaking

- i. The pumps are capable of passing a 2.5-inch sphere or are grinder pumps;
- ii. The lift station is capable of operating at design flow with any one pump out of service; and
- iii. Piping, valves, and controls are arranged to allow independent operation of each pump.
- e. Not use suction pumps if the sewage lift is more than 15 feet. The applicant shall ensure that other types of pumps are self-priming and that pump water brake horsepower is at least 0.00025 times the product of the required discharge, in gallons per minute, and the required total dynamic head, in feet;
- f. For safety during operation and maintenance, design lift stations to conform with all applicable state and federal confined space requirements; and
- g. For lift stations receiving an average flow of more than 10,000 gallons per day, include a standby power source in the lift station design that may be put into service immediately and remain available for 24 hours per day.
- E.** Additional Verification of General Permit Conformance requirements. An applicant shall:
 - 1. Supply a signed and sealed Engineer's Certificate of Completion, unless prohibited by law, in a format approved by the Department that provides the following:
 - a. Confirmation that the project was completed in compliance with the requirements of this Chapter, as described in the plans and specifications corresponding to the Provisional Verification of General Permit Conformance issued by the Director, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion;
 - b. As-built plans, if required, that are properly identified and numbered; and
 - c. Confirmation of satisfactory test results from deflection, leakage, and uniform slope testing.
 - 2. Provide any other relevant information required by the Department to determine that the facility conforms to the terms of this general permit; and
 - 3. If the project has a design flow of more than 10,000 gallons per day, provide a final operation and maintenance plan that includes the 24-hour emergency number of the owner or operator of the system.
- F.** Operation and maintenance requirements.
 - 1. The permittee of a sewage collection system that includes a force main and lift station or that has a design flow of more than 10,000 gallons per day shall maintain, and revise as needed, an operation and maintenance plan for the system at the system control center.
 - 2. The permittee shall ensure that the operation and maintenance plan is the basis for operation and continuing maintenance of the sewer collection system.

R18-9-E302. 4.02 General Permit: Septic Tank With Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.02 General Permit allows for a system consisting of a septic tank dispensing wastewater to an approved means of disposal described in this Section. Only gravity flow of wastewater from the septic tank to the disposal field is authorized by this general permit.
 - 1. The standard septic tank and disposal field design specified in this general permit is intended to serve most sites where no site limitations are identified by the site investigation conducted under R18-9-A310.
 - 2. If site conditions allow, this general permit authorizes the discharge of wastewater from a septic tank meeting the requirements of R18-9-A314 to one of the following disposal fields:
 - a. Shallow trench.
 - b. Deep trench.
 - c. Bed.
 - d. Disposal field using chamber technology, or
 - e. Seepage pit.
- B.** Performance. An applicant shall design a system consisting of a septic tank and one of the disposal fields listed in subsection (A)(2) on the basis that treated wastewater released to the native soil meets the following criteria:
 - 1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
 - 2. BOD₅ of 150 milligrams per liter, 30-day arithmetic mean;
 - 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 - 4. Total coliform level of 100,000,000 (Log₁₀ 8) colony forming units per 100 milliliters, 95th percentile.
- C.** Design and installation requirements.
 - 1. General provisions. The applicant shall:
 - a. Ensure that the septic tank meets the requirements specified in R18-9-A314;
 - b. Before placing aggregate or drain lines in a prepared excavation, remove all smeared or compacted surfaces from trenches by raking to a depth of one inch and removing loose material. The applicant shall:
 - i. Place aggregate in the trench to the depth and grade specified in subsection (C)(2);
 - ii. Place the drain pipe on aggregate and cover it with aggregate to the minimum depth specified in subsection (C)(2); and

Notices of Final Rulemaking

- iii. Cover the aggregate with landscape filter material, geotextile, or similar porous material to prevent filling of voids with earth backfill.
 - c. Use a grade board stake placed in the trench to the depth of the aggregate if the distribution line is constructed of drain tile or flexible pipe that will not maintain alignment without continuous support;
 - d. If two or more drain lines are installed, install a distribution box approved by the Department of sufficient size to receive all lateral lines and flows at the head of each disposal field. The applicant shall:
 - i. Ensure that the inverts of all outlets are level and the invert of the inlet is at least one inch above the outlets;
 - ii. Design distribution boxes to ensure equal flow and install the boxes on a stable level surface such as a concrete slab or native or compacted soil; and
 - iii. Protect concrete distribution boxes from corrosion by coating them with an appropriate bituminous coating, constructing the boxes with concrete that has a 15 to 18% fly ash content, or by using other allowable means.
 - e. Construct all lateral pipes running from a distribution box to the disposal field with watertight joints and ensure that multiple disposal field laterals, wherever practical, are of uniform length;
 - f. Lay pipe connections between the septic tank and a distribution box on natural ground or compact fill and construct the pipe connections with watertight joints;
 - g. Construct steps within distribution line trenches or beds, if necessary, to maintain a level disposal pipe on sloping ground. The lines between each horizontal section shall be constructed with watertight joints and installed on natural or unfilled ground; and
 - h. Ensure that a disposal field consisting of trenches, beds, chamber technology, or seepage pits is not paved over or covered by concrete or any material that can reduce or inhibit possible evaporation of wastewater through the soil to the land surface.
2. Shallow and deep trenches.
- a. The applicant may, in computing the trench bottom absorption, include a trench sidewall area between 12 and 36 inches below the distribution line.
 - b. The applicant shall ensure that trench bottoms are level. The applicant shall calculate trench sizing for shallow and deep trenches from the soil absorption rate specified under R18-9-A312(D).
 - c. The following design criteria for shallow and deep trenches apply:

Shallow and Deep Trenches	Minimum	Maximum
<u>Number of trenches</u>	<u>1</u> <u>(2 are recommended)</u>	<u>---</u>
<u>Length of trench</u>	<u>---</u>	<u>100 feet</u>
<u>Bottom width of trench</u>	<u>12 inches</u>	<u>36 inches</u>
<u>Depth of cover over distribution pipe</u>	<u>9 inches</u>	<u>24 inches¹</u>
<u>Aggregate material under pipe</u>	<u>12 inches</u>	<u>---</u>
<u>Aggregate material over pipe</u>	<u>2 inches</u>	<u>2 inches</u>
<u>Slope of distribution pipe</u>	<u>Level</u>	<u>Level</u>
<u>Distribution pipe diameter</u>	<u>3 inches</u>	<u>4 inches</u>
<u>Spacing of distribution pipe</u>	<u>2 times effective depth² or five feet, whichever is greater</u>	<u>---</u>

NOTES:

- 1. For more than 24 inches, SDR 35 or equivalent strength pipe is required.
- 2. The distance between the bottom of the distribution pipe and the bottom of the trench bed.
- 3. Beds. An applicant shall:
 - a. If a bed is installed instead of a trench, ensure that the area of each bed is at least 50% greater than the tabular dimensions required for a trench. The applicant may, in computing the bed bottom absorption area, include a perimeter sidewall area between 12 and 36 inches below the distribution line.
 - b. Ensure that the bottom of a bed is level and calculate bed sizing from the soil absorption rate as specified by R18-9-A312(D).
 - c. The following design criteria for beds apply:

Arizona Administrative Register
Notices of Final Rulemaking

Gravity Beds	Minimum	Maximum
<u>Number of distribution pipes</u>	<u>2</u>	<u>—</u>
<u>Length of bed</u>	<u>—</u>	<u>100 feet</u>
<u>Distance between pipes</u>	<u>4 feet</u>	<u>6 feet</u>
<u>Width of bed</u>	<u>10 feet</u>	<u>12 feet</u>
<u>Distance from pipe to sidewall</u>	<u>3 feet</u>	<u>3 feet</u>
<u>Depth of cover over pipe</u>	<u>9 inches</u>	<u>14 inches</u>
<u>Aggregate material under pipe</u>	<u>12 inches</u>	<u>—</u>
<u>Aggregate material over pipe</u>	<u>2 inches</u>	<u>2 inches</u>
<u>Slope of distribution pipe</u>	<u>Level</u>	<u>Level</u>
<u>Distribution pipe diameter</u>	<u>3 inches</u>	<u>4 inches</u>

4. Disposal field using chamber technology. An applicant shall:

- a. If leaching chambers are proposed instead of trenches or beds installed with distribution pipes, calculate an equivalent effective chamber absorption area to size the disposal field area and the number of chambers needed. The effective absorption area of each chamber is calculated as follows:

$$A = (1.43 \times B \times L) + (2 \times V \times L)$$

- i. "A" is the effective absorption area of each chamber.
 ii. "B" is the nominal width of the open bottom absorption surface of the chamber.
 iii. "V" is the vertical height of the chamber sidewall, and
 iv. "L" is the length of the chamber.

- b. Calculate the disposal field size and number of chambers from the effective absorption area of each chamber and the soil absorption rates specified in R18-9-A312(D), taking care to use the appropriate value, depending on whether the proposed chamber installation is shallow or deep. Example calculations for effective chamber absorption area, disposal field size, and number of required chambers are on file with the Department.
 c. Ensure that the sidewall of the chamber provides at least 35% open area for sidewall credit and that the design and construction minimizes the movement of fines into the chamber area. The use of filter fabric or geotextile against the sidewall openings is prohibited.

5. Seepage pits. The applicant shall:

- a. If allowed by R18-9-A311, design a seepage pit to comply with R18-9-A312(E)(1) for minimum vertical separation distance;
 b. Ensure that multiple seepage pit installations are served through a distribution box approved by the Department or connected in series with a watertight connection laid on undisturbed or compacted soil. The applicant shall ensure that the outlet from the pit has a sanitary tee with the vertical leg extending at least 12 inches below the inlet;
 c. Ensure that each seepage pit is circular and has an excavated diameter of four to six feet. The applicant may use the alternative design procedure specified in R18-9-A312(G) for a proposed seepage pit more than six feet in diameter;
 d. For a gravel filled seepage pit, backfill the entire pit with aggregate. The applicant shall ensure that each pit has a breather conductor pipe that consists of a perforated pipe at least four inches in diameter, placed vertically within the backfill of the pit. The pipe shall extend from the bottom of the pit to within 12 inches below ground level;
 e. For a lined, hollow seepage pit, lay a concrete liner or a liner of a different approved material in the pit on a firm foundation and fill excavation voids behind the liner with at least nine inches of aggregate;
 f. For the cover of a lined seepage pit use an approved one or two piece reinforced concrete slab with a minimum compressive strength of 2500 pounds per square inch. The applicant shall ensure that the cover:
 i. Is at least five inches thick and designed to support an earth load of at least 400 pounds per square foot;
 ii. Has a 12 inch square or diameter minimum access hole with a plug or cap that is coated on the underside with an approved bituminous seal, constructed of concrete with 15% to 18% fly ash content, or made of other nonpermeable protective material; and
 iii. Has a four inch or larger inspection pipe placed vertically not more than six inches below ground level.
 g. Ensure that the top of the seepage pit cover is four to 18 inches below the surface of the ground;
 h. Install a vented inlet fitting in every seepage pit to prevent flows into the seepage pit from damaging the sidewall.
 i. An applicant may use a 1/4 bend fitting placed through an opening in the top of the slab cover if a one or two piece concrete slab cover inlet is used; or
 ii. For multiple seepage pit installations, an applicant shall install the outlet fittings following a reference design drawing on file with the Department.

Notices of Final Rulemaking

- i. Bore seepage pits five feet deeper than the proposed pit depth to verify underlying soil characteristics and back-fill the five feet of overdrill with low permeability drill cuttings or other suitable material;
- j. Backfill seepage pits that terminate in gravelly, coarse sand zones five feet above the beginning of the zone with low permeability drill cuttings or other suitable material;
- k. Determine the minimum sidewall area for a seepage pit from the design flow and the soil absorption rate derived from the testing procedure described in R18-9-A310(F). The effective absorption surface for a seepage pit is the sidewall area only. The sidewall area is calculated by the following formula:

$$A = 3.14 \times D \times H$$

- i. "A" is the minimum sidewall area in square feet needed for the design flow and soil absorption rate for the installation.
- ii. "D" is the diameter of the proposed seepage pit in feet, and
- iii. "H" is the vertical height in feet in the seepage pit through which wastewater infiltrates native soil. The applicant shall ensure that H is at least 10 feet for any seepage pit.

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Design Flow

A. A 4.03 General Permit allows a composting toilet.

1. Definition. For purposes of this Section, a "composting toilet" means a treatment technology that receives human waste from a waterless toilet directly into an aerobic composting tank where dehydration and biological activity reduce the volume and the content of nutrients and harmful microorganisms to an appropriate level for later disposal at the site or elsewhere.
2. An applicant shall use a composting toilet system only if a wastewater system or gray water system is used to accommodate wastewater that does not originate from toilets.
3. An applicant may use a composting toilet if:
 - a. Limited water availability prevents use of other types of on-site wastewater treatment facilities.
 - b. Environmental constraints prevent the discharge of wastewater or nutrients to a sensitive area.
 - c. Inadequate space prevents use of other systems, or
 - d. Severe site limitations exist that make other forms of treatment or disposal unacceptable.

B. Restrictions. An applicant shall:

1. Not install a composting toilet if the composting chamber temperature cannot be maintained between 60°F. and 70°F. or for any seven day average the temperature of the chamber is less than 55°F. or greater than 80°F. and
2. Ensure that a composting toilet system receives only human excrement.

C. Performance. An applicant shall ensure that a composting toilet:

1. Prevents discharge of blackwater to the native soil through containment in the composting toilet system.
2. Manages gray water as provided in this Article or under A.A.C. Title 18, and
3. Prevents vectors.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:

1. The name and address of the composting toilet system manufacturer;
2. A copy of the manufacturer's warranty, installation, and operation and maintenance plans;
3. The product model number;
4. The rate of composting and capacity calculations.
5. Documentation of listing by a national listing organization indicating that the composting toilet meets the stated manufacturer's specifications for loading, treatment performance, and operation;
6. The method of vector control; and
7. The calculation of waste volume and planned method for disposing of the composted human excrement residue.

E. Design requirements. An applicant shall:

1. Ensure that the composting tank is double-walled for leak protection;
2. Ensure that the composting tank has airtight seals to prevent odor or toxic gas from escaping into the building. The system may be vented to the outside;
3. Base the rate of composting and capacity calculations on the lowest monthly average tank temperature, unless a temperature control device is installed;
4. Unless a temperature control device is installed, ensure that the capacity of the composting facility provides adequate storage for all waste produced during the months when the average temperature is below 55° F, if the manufacturer allows operation at this temperature; and
5. Dispose of the composted product at the end of the treatment process as provided under A.A.C. Title 18, Chapters 8 and 13.

F. Operation and maintenance requirements. A permittee shall:

1. Provide adequate mixing, ventilation, temperature control, moisture, and bulk to reduce fire hazard and prevent anaerobic conditions;

Arizona Administrative Register
Notices of Final Rulemaking

2. If consistent with this Chapter, follow the manufacturer's recommendations regarding use of an organic bulking agent to control liquid drainage, promote aeration, or provide additional carbon;
3. If consistent with this Chapter, follow the manufacturer's recommendations for operation, maintenance, and record-keeping regarding rotating tines used to control the movement of material to the bottom of the composting chamber;
4. If batch system containers are mounted on a carousel, place a new container in the toilet area if the previous one is full;
5. Ensure that only human waste, paper approved for septic tank use, and the amount of bulking material required for proper maintenance is introduced to the composting tank. The applicant shall immediately remove all other materials or trash. If allowed by the manufacturer's specifications and consistent with this Chapter, other nonliquid compostable residues, such as fruit and vegetable peels, may be added to the toilet;
6. Ensure that liquid end product that does not evaporate is sprayed back onto the composting waste material or removed by a permitted or licensed waste hauler;
7. Remove and dispose of composted waste, at least annually, using a permitted or licensed waste hauler if the waste is not placed in a disposal area for burial;
8. Before ending use for an extended period take measures to assure that moisture is maintained to sustain bacterial activity and free liquids in the tank do not freeze; and
9. After an extended period of non-use, empty the composting tank of solid end product and inspect all mechanical components to verify that the mechanical components are operating as designed.

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.04 General Permit allows pressurized distribution of wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "pressure distribution system" means a tank, pump, controls, and piping that conducts wastewater under pressure in controlled amounts and intervals to a disposal field, bed, trench, or other means of disposal authorized by a general permit for an on-site wastewater treatment facility.
 2. An applicant may use a pressure distribution systems if a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions or if needed to optimally disperse wastewater to some types of disposal systems.
- B.** Performance. An applicant shall ensure that a pressure distribution system:
1. Has Department-approved dispersing components that provide proper dispersal of wastewater so that loading rates are optimized for the particular system, and
 2. Prevents ponding on the land surface.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. A copy of operation, maintenance, and warranty materials for the principal components; and
 2. A copy of dosing specifications, including pump curves, dispersing component curves, and float switch settings.
- D.** Design requirements.
1. An applicant shall ensure that pumps:
 - a. Are rated for effluent service by the manufacturer and certified by Underwriters Laboratories.
 - b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site, and
 - c. Incorporate a quick disconnect using compression-type unions for pressure connections. The applicant shall ensure that:
 - i. Quick-disconnects are accessible in the pressure piping, and
 - ii. A pump has adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank.
 2. Switches, controls, alarms, and electrical components. An applicant shall ensure that:
 - a. Switches and controls accommodate the minimum and maximum dose capacities of the distribution network design. Pressure diaphragm level control switches are prohibited;
 - b. Controls designed for fail-safe treatment or flow equalization functions are field-tested to assure compliance with the design and operation specifications. The applicant shall include counters or flow meters if critical to control functions, such as timed dosing;
 - c. Control panels and alarms:
 - i. Are mounted in an exterior location visible from the dwelling.
 - ii. Provide manual pump switch and alarm test features, and
 - iii. Include written instructions covering standard operation and alarm events.
 - d. Audible and visual alarms are used for all critical control functions, such as pump failures, treatment failures, and excess flows. The applicant shall ensure that:
 - i. The visual portion of the signal is conspicuous from a distance 50 feet from the system and its appurtenances.

- ii. The audible portion of the signal is between 70 and 75 db at 5 feet and is discernable from a distance of 50 feet from the system and its appurtenances, and
 - iii. Alarms, test features, and controls are on a non-dedicated electrical circuit associated with a frequently used household lighting fixture and separate from the dedicated circuit for the pump.
 - e. All electrical wiring complies with the National Electrical Code, 1999 Edition, published by the National Fire Protection Association. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101. The applicant shall ensure:
 - i. Connections are made using National Electrical Manufacturers Association (NEMA) 4x junction boxes certified by Underwriters Laboratories; and
 - ii. All controls are in NEMA 3r, 4, or 4x enclosures for outdoor use.
 - 3. Dosing tanks and wastewater distribution components. An applicant shall:
 - a. Design dosing tanks to withstand anticipated internal and external loads under full and empty conditions, and design concrete tanks to meet the "Standard Specification for Precast Concrete Water and Wastewater Structures," published by the American Society for Testing and Materials, (C 913-98), approved December 10, 1998. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959;
 - b. Design dosing tanks to be easily accessible and have secured covers;
 - c. Install risers to provide access to the inlet and outlet of the tank and to service internal components;
 - d. Ensure that the volume of the dosing tank accommodates bottom depth below maximum drawdown, maximum design dose, including any drainback, volume to high water alarm, and a reserve volume above the high water alarm level that is not less than the daily design flow volume. If the tank is time dosed, the applicant shall ensure that the combined surge capacity and reserve volume above the high water alarm is not less than the daily design flow volume; and
 - e. Ensure that dosing tanks are watertight and anti-buoyant.
 - E. Installation requirements. An applicant may use a septic tank second compartment or a second septic tank in series as a dosing tank if all dosing tank requirements of this Section are met and a screened vault is used instead of the septic tank effluent filter. An applicant shall:
 - 1. Install switches, controls, alarms, and electrical components for easy access for routine monitoring and maintenance; and
 - 2. Compact berms around the disposal area to 85% and ensure that the berms are adequate to retain wastewater and rainwater from a 10-year, 24-hour rainfall event within the disposal field.
 - F. Additional Verification of General Permit Conformance requirements. An installer shall provide copies of instructions for the critical controls of the system to the homeowner and the Department before issuance of the Verification of General Permit Conformance.
 - G. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, a permittee shall ensure that:
 - 1. The operation and maintenance plan for the on-site wastewater treatment facility that supplies the wastewater to the pressure distribution system specifies inspection and maintenance needed for the following items:
 - a. Sludge level in the bottom of the treatment and dosing tanks,
 - b. Watertightness,
 - c. Condition of electrical and mechanical components, and
 - d. Piping and other components functioning within design limits.
 - 2. All critical control functions are specified in the Operation and Maintenance Plan for testing to demonstrate compliance with design specifications, including:
 - a. Alarms, test features, and controls;
 - b. Float switch level settings;
 - c. Dose rate, volume, and frequency, if applicable;
 - d. Distal pressure or squirt height, if applicable; and
 - e. Voltage test on pumps, motors, and controls, as applicable.
 - 3. The finished grade is observed and maintained for proper surface drainage. The applicant shall observe the levelness of the tank for differential settling. If there is settling, the applicant shall grade the facility to maintain surface drainage.

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.05 General Permit allows a gravelless trench receiving wastewater treated to a quality equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-A314 to the gravelless pipe system described in this Section.
1. Definition. For purposes of this Section, a “gravelless trench” means a disposal technology characterized by installation of a proprietary pipe, chamber, and geocomposite or other substitute media into native soil instead of the distribution pipe and aggregate fill used in a conventional disposal field trench.
 2. A permittee may use a gravelless trench if suitable gravel or volcanic rock aggregate is unavailable, excessively expensive, or if adverse site conditions make movement of gravel difficult, damaging, or time consuming.
- B.** Performance. An applicant shall design a gravelless trench on the basis that treated wastewater released to the native soil meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 150 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
 4. Total coliform level of 100,000,000 (Log₁₀ 8) colony forming units per 100 milliliters, 95th percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit the following:
1. The soil absorption area that is required if a conventional disposal field trench filled with aggregate is used,
 2. The configuration and size of the proposed gravelless disposal field, and
 3. The manufacturer’s installation instructions and warranty of performance for absorbing wastewater into the native soil.
- D.** Design requirements. An applicant shall:
1. Ensure that the top of the gravelless disposal pipe or similar disposal mechanism is at least six inches below the surface of the native soil and 12 to 36 inches below finished grade if approved fill is placed on top of the installation;
 2. Calculate the infiltration surface as follows:
 - a. For eight inch diameter pipe, two square feet of absorption area is allowed per linear foot;
 - b. For 10 inch diameter pipe, three square feet of absorption area is allowed per linear foot;
 - c. For bundles of two pipes of the same diameter, the absorption area is calculated as 1.67 times the absorption area of one pipe; and
 - d. For bundles of three pipes of the same diameter, the absorption area is calculated as 2.00 times the absorption area of one pipe.
 3. Use a pressure distribution system meeting the requirements of R18-9-E304 in medium sand, coarse sand, and coarser soils; and
 4. Construct the drainfield of material that will not decay, deteriorate, or leach chemicals or byproducts if exposed to sewage or the subsurface soil environment.
- E.** Installation requirements. An applicant shall:
1. Install the gravelless pipe material according to manufacturer’s instructions if the instructions are consistent with this Chapter,
 2. Ensure that the installed disposal system can withstand the physical disturbance of backfilling and the load of any soil cover above natural grade placed over the installation, and
 3. Shape any backfill and soil cover in the area of installation to prevent settlement and ponding of rainfall for the life of the disposal field.
- F.** Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall inspect the finished grade in the vicinity of the gravelless disposal field for maintenance of proper drainage and protection from damaging loads.

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.06 General Permit allows a natural seal evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.
1. Definition. For purposes of this Section, a “natural seal evapotranspiration bed” means a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system, contained on the bottom and sidewalls by an engineered liner consisting of natural soil and clay materials.
 2. An applicant may use a natural seal evapotranspiration bed if site conditions restrict soil infiltration or require reduction of the volume or nitrogen content of wastewater discharged to the native soil underlying the natural seal liner.
- B.** Restrictions. Unless a person provides design documentation to show that a natural seal evapotranspiration bed will properly function, the person shall not install this technology if:
1. Average minimum temperature in any month is 20°F. or less,

2. Over 1/3 of the average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.
- C.** Performance. An applicant shall ensure that a natural seal evapotranspiration bed:
 1. Minimizes discharge to the native soil through the natural seal liner,
 2. Maximizes wastewater disposed to the atmosphere by evapotranspiration, and
 3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.
- D.** Reference design.
 1. An applicant may design and install a natural seal evapotranspiration bed with the performance required in subsection (C), following a reference design on file with the Department.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.
- E.** Alternative design. An applicant may submit an alternative to the reference design for a natural seal evapotranspiration bed that achieves the performance requirements specified in subsection (C) by following requirements specified in R18-9-A312(G).
 1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.07 General Permit allows a lined evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.
 1. Definition. For purposes of this Section, a "lined evapotranspiration bed" means a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system contained on the bottom and sidewalls by an impervious synthetic liner.
 2. An applicant may use a lined evapotranspiration bed if site conditions restrict soil infiltration or require reduction or elimination of the volume or nitrogen content of wastewater discharged to the native soil.
- B.** Restrictions. Unless a person provides design documentation to show that a lined evapotranspiration bed will properly function, the person shall not install this technology if:
 1. Average minimum temperature in any month is 20°F. or less,
 2. Over 1/3 of average annual precipitation falls in a 30-day period, or
 3. Design flow exceeds net evaporation.
- C.** Performance. An applicant shall ensure that a lined evapotranspiration bed:
 1. Prevents discharge to the native soil by a synthetic liner,
 2. Attains full disposal of wastewater to the atmosphere by evapotranspiration, and
 3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.
- D.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
 1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D₅₀ of 0.1 millimeter (50% by weight of grains equal to or smaller than 0.1 millimeter in size) is used; and
 2. Water mass balance calculations used to size the evapotranspiration bed.
- E.** Design requirements. An applicant shall:
 1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and calculate the bed design on the basis of the capillary rise of the bed media, according to the "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus," published by the American Society for Testing and Materials, (D 2325-68), reapproved 1994^{EL}, and the anticipated maximum frost depth. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959;
 2. Base design area calculations on a water mass balance for the winter months;
 3. Ensure that the evapotranspiration bed liner is a low hydraulic conductivity synthetic liner that has a calculated seepage rate of less than 550 gallons per acre per day;
 4. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of two inches. The applicant shall ensure that:
 - a. The topsoil is a fertile, friable soil obtained from well-drained arable land, and is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth; and

Arizona Administrative Register
Notices of Final Rulemaking

- b. The pH factor does not exceed 8.0 or fall lower than 5.5, soluble salts do not exceed 1500 milligrams per liter, the plasticity index is in the range of three and 15 inclusive, and the soil contains approximately 1 1/2% organic matter, by dry weight, either natural or added. The applicant shall ensure that material used for the surfacing layer meets the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
<u>1"</u>	<u>100</u>
<u>1/2"</u>	<u>95-100</u>
<u>No. 4</u>	<u>90-100</u>
<u>No. 10</u>	<u>70-100</u>
<u>No. 200</u>	<u>15-70</u>

5. Use shallow-rooted, non-invasive, salt and drought tolerant evergreens if vegetation is planted on the evapotranspiration bed;
6. Install at least one observation port to allow determination of the depth to the liquid surface of wastewater within the evapotranspiration bed;
7. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance. Provision of a reserve area is not required for a lined evapotranspiration bed; and
8. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the evapotranspiration bed liner to the surface of the water table or impervious layer or formation is at least 12 inches.

E. Installation requirements. An applicant shall ensure that:

1. All liner seams are factory fabricated or field welded according to manufacturer's specifications not inconsistent with this Chapter. The applicant shall ensure that:
 - a. The liner covers the bottom and all sidewalls of the bed and is cushioned on the top and bottom with layers of sand at least two inches thick or other equivalently protective material, and
 - b. If the inlet pipe passes through the liner, the joint is tightly sealed.
2. The liner is leak tested under the supervision of an Arizona-registered professional engineer, and
3. A two- to four-inch layer of 1/2 to one inch gravel or crushed stone is placed around the distribution pipes within the bed. The applicant shall place filter cloth on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional Verification of General Permit Conformance requirements. An applicant shall submit the sealed results of the liner test to the Department before issuance of the Verification of General Permit Conformance.

H. Operation and maintenance requirements.

1. Irrigation of an evapotranspiration bed is not allowed.
2. A permittee shall protect the bed from vehicle loads and other damaging activities.

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Design Flow

A. A 4.08 General Permit allows a Wisconsin mound receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.

1. Definition. For purposes of this Section, a "Wisconsin mound" means a disposal technology characterized by:
 - a. An above-grade bed system that blends with the land surface into which is dispensed pressure dosed wastewater from a septic tank or other upstream treatment device.
 - b. Dispersal of wastewater under unsaturated flow conditions through the engineered media system contained in the mound, and
 - c. Wastewater treated by passage through the mound before percolation into the native soil below the mound.
2. An applicant may use a Wisconsin mound if the native soil has excessively high or low permeability, there is little native soil overlying fractured or excessively permeable rock, or a reduction in minimum vertical separation is desired.

B. Performance. An applicant shall design a Wisconsin mound on the basis that treated wastewater released to the native soil meets the following criteria:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 300,000 (Log₁₀ 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Specifications for the internal wastewater distribution system media proposed for use in the Wisconsin mound;

2. Two scaled or dimensioned cross sections of the mound (1 of the shortest basal area footprint dimension and one of the lengthwise dimension); and
3. Design calculations following the "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual," published by the University of Wisconsin - Madison, January 1990 Edition. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the University of Wisconsin - Madison, SSWMP, 1525 Observatory Drive, Room 345, Madison, WI 53706.

D. Design requirements. An applicant shall ensure that:

1. Pressure dosed wastewater is delivered into the Wisconsin mound through a pressurized line and secondary distribution lines into an engineered aggregate infiltration bed, or equivalent system, in conformance with R18-9-E304 and the Wisconsin Mound Manual. The applicant shall ensure that the aggregate is washed;
2. Wastewater is distributed in the aggregate infiltration bed and applied to the mound bed inlet surface at the following rates:
 - a. Not more than 1.0 gallon per day per square foot of mound bed inlet surface if the mound bed media conforms with the "Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), published by the American Society for Testing and Materials, approved July 10, 1999, and the Wisconsin Mound Manual, except if cinder sand is used that is the appropriate grade with not more than 5% passing a #200 screen. The Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), approved July 10, 1999, is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959. The applicant shall:
 - i. For cinder sand, ensure that the rate is not more than 0.8 gallons per day per square foot of mound bed inlet surface; and
 - ii. Wash media used for the mound bed.
 - b. A rate, configuration, or material for the infiltration bed or the mound bed submitted under R18-9-A312(G). The applicant shall ensure that the submittal includes supporting analyses for the design configuration, materials, and loading rates.
3. The aggregate infiltration bed and mound bed is capped by coarser textured soil, such as sand, sandy loam, or silt loam. Silty clay, clay loam, or clays are prohibited;
4. The cap material is covered by topsoil following the Wisconsin Mound Manual, and the topsoil is capable of supporting vegetation, is not clay, and is graded to drain;
5. The top and bottom surfaces of the aggregate infiltration bed are level and do not exceed 10 feet in width. The applicant shall ensure that:
 - a. The minimum depth of the aggregate infiltration bed is nine inches, and
 - b. Synthetic filter fabric permeable to water and air and capable of supporting the cap and topsoil load is placed on the top surface of the aggregate infiltration bed.
6. The minimum depth of mound bed media is 12 inches;
7. The maximum allowable side slope of the mound bed, cap material, and topsoil is not more than one vertical to three horizontal;
8. Ports for inspection and monitoring are provided to verify performance, including verification of unsaturated flow within the aggregate infiltration bed. The applicant shall:
 - i. Install a vertical PVC pipe and cap with a minimum diameter of four inches as an inspection port, and
 - ii. Install the pipe with a physical restraint to maintain pipe position.
9. The main pressurized line and secondary distribution lines for the aggregate infiltration bed are equipped at appropriate locations with cleanouts to grade;
10. Setbacks specified in R18-9-A312(C) are observed, except that the applicant shall:
 - a. Increase setbacks for the following downslope features at least 30 feet from the toe of the mound system:
 - i. Property line,
 - ii. Driveway,
 - iii. Building,
 - iv. Ditch or interceptor drain, or
 - v. Any other feature that impedes water movement away from the mound.
 - b. Ensure that no upslope natural feature or improvement channels surface water or groundwater to the mound area.
11. The active portion of the basal area of native soil below the mound conforms to the Wisconsin Mound Manual. The applicant shall:
 - a. Calculate the absorption of wastewater into the native soil for only the effective basal area;

- b. Apply the soil application rates specified in R18-9-A312(D). The allowable loading rate to the mound bed inlet surface may be increased up to 1.6 times if the wastewater dispersed to the mound is pretreated to reduce the sum of TSS and BOD₅ to 60 mg/l or less. The soil application rate may be increased to not more than 0.20 gallons per day per square foot of effective basal area if the following slowly permeable soils underlie the mound:
 - i. Sandy clay loam, clay loam, silty clay loam or finer with weak platy structure; or
 - ii. Sandy clay loam, clay loam, silty clay loam or silt loam with massive structure.
 12. The slope of the native soil at the basal area does not exceed 25%, and a slope stability analysis is performed whenever the basal area or site slope within 50 horizontal feet from the mound system footprint exceeds 15%.
- E. Installation.** An applicant shall:
1. Prepare native soil for construction of a Wisconsin mound system. The applicant shall:
 - a. Mow vegetation and cut down trees in the vicinity of the basal area site to within two inches of the surface;
 - b. Leave in place tree stumps and other herbaceous material that excessively alters the soil structure if removed after mowing and cutting;
 - c. Plow native soil serving as the basal area footprint along the contours to seven to eight inches depth;
 - d. Not substitute rototilling for plowing; and
 - e. Begin mound construction immediately after plowing.
 2. Place each layer of the bed system to prevent differential settling and promote uniform density; and
 3. Use the Wisconsin Mound Manual to guide any other detail of installation. Installation procedures and criteria may vary depending on mound design but shall be at least equivalent to the Wisconsin Mound Manual.
- F. Operation and maintenance requirements.** In addition to the applicable requirements specified in R18-9-A313, the permittee shall:
1. If an existing mound system shows evidence of overload or hydraulic failure, consider the following measures:
 - a. Verification of actual loading and performance of the pretreatment system and verification of the watertightness of the pretreatment and dosing tanks;
 - b. Determination of dosing rates and dosing intervals to the aggregate infiltration bed and comparison with the original design to evaluate the presence or absence of saturated conditions in the aggregate infiltration bed;
 - c. If the above steps do not indicate an anomalous condition, evaluation of the site and recalculation of the disposal capability to determine if lengthening of the mound is feasible;
 - d. Site modifications including, changing surface drainage patterns at upgrade locations and lowering the ground-water level by installing interceptor drains to reduce native soil saturation at shallow levels; and
 - e. Increasing the basal area, which is most efficient if the bed length is increased.
 2. If the mound needs to be expanded in size, submit a new Notice of Intent to Discharge for this modification; and
 3. Specify servicing and waste disposal procedures and task schedules necessary for clearing the main pressurized wastewater line and secondary distribution lines, septic tank effluent filter, pump intake, and controls.

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.09 General Permit allows a engineered pad system receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, the “engineered pad system” means a disposal technology characterized by:
 - a. The delivery of treated wastewater by gravity or pressure distribution to the engineered pad and sand bed assembly, which then disperses the wastewater into the native soil;
 - b. Passage of the treated wastewater through a pad and engineered sand bed by gravity under unsaturated flow conditions; and
 - c. Provision of additional passive biological treatment to the wastewater and reduced biomat formation at the inlet absorption surface of the underlying native soil.
 2. The applicant may use an engineered pad system if:
 - a. The native soil is excessively permeable,
 - b. There is little native soil overlying fractured or excessively permeable rock, or
 - c. The available area is limited for installing a disposal field system authorized by R18-9-E302.
- B.** Performance. An applicant shall ensure that:
1. Any proprietary engineered pad system previously approved by the Department is designed on the basis that the released treated wastewater to the native soil meets the following criteria:
 - a. TSS of 50 milligrams per liter, 30-day arithmetic mean;
 - b. BOD₅ of 50 milligrams per liter, 30-day arithmetic mean;
 - c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
 - d. Total coliform level of 1,000,000 (Log₁₀ 6) colony forming units per 100 milliliters, 95th percentile.
 2. Any engineered pad not previously approved by the Department is designed on the basis that the treated wastewater released to the native soil does not exceed the performance values specified for the systems described in R18-9-E302. If an applicant wishes to use different performance values, the Department shall review the system as established under R18-9-A309(H).

- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit design materials and construction specifications for the engineered pad system.
- D.** Design requirements. An applicant shall ensure that:
1. Gravity and pressurized wastewater delivery is from a septic tank or intermediate watertight chamber equipped with a pump and controls. The applicant shall ensure that:
 - a. Delivered wastewater is distributed onto the top of the engineered pad system and achieves even distribution by good engineering practice, and
 - b. The dosing rate for pressurized wastewater delivery is at least four doses per day and no more than 24 doses per day.
 2. The sand bed consists of mineral sand washed to conform to the "Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), which is incorporated by reference in R18-9-E308(D)(2)(a), unless the performance testing and design specifications of the engineered pad manufacturer justify a substitute specification. The applicant shall ensure that:
 - a. The sand bed design provides for the placement of at least six inches of sand bed material below and along the perimeter of each pad, and
 - b. The sand bed contact with the native soil absorption system is level.
 3. The wastewater distribution system installed on the top of the engineered pad system is covered with a breathable geotextile material that is itself covered with at least 10 inches of backfill.
 - a. The applicant shall ensure that rocks and cobbles are removed from backfill cover and grade the backfill for drainage.
 - b. The applicant may place the engineered pad system above grade, partially bury it, or bury it depending on site and service circumstances.
 4. The engineered pad system is constructed with durable materials and capable of withstanding stress from installation and operational service; and
 5. At least two inspection ports are installed in the engineered pad system to confirm unsaturated wastewater treatment conditions at diagnostic locations.
- E.** Installation requirements. In addition to the applicable requirements specified in R18-9-A313, an applicant shall place sand media to obtain a uniform density of 1.3 to 1.4 grams per cubic centimeter.
- F.** Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, an applicant shall inspect the backfill cover for physical damage or erosion and promptly repair the cover, if necessary.

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.10 General Permit allows an intermittent sand filter receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, an "intermittent sand filter" means a treatment technology characterized by:
 - a. The pressurized delivery of pretreated wastewater to an engineered sand bed in a containment vessel equipped with an underdrain system or designed as a bottomless filter;
 - b. Delivered wastewater dispersed throughout the sand media by periodic doses from the delivery pump to maintain unsaturated flow conditions in the bed; and
 - c. Wastewater that is treated during passage through the media, collected by a bed underdrain chamber, and removed by pump or gravity to the disposal works, or wastewater that percolates downward directly into the native soil as part of a bottomless filter design.
 2. An applicant may use an intermittent sand filter if:
 - a. The native soil is excessively permeable,
 - b. There is little native soil overlying fractured or excessively permeable rock, or
 - c. Reduction in setback distances or minimum vertical separation is desired.
- B.** Performance. An applicant shall ensure that:
1. An intermittent sand filter with underdrain system is designed on the basis that it produces treated wastewater that meets the following criteria:
 - a. TSS of 10 milligrams per liter, 30-day arithmetic mean;
 - b. BOD₅ of 10 milligrams per liter, 30-day arithmetic mean;
 - c. Total nitrogen (as nitrogen) of 40 milligrams per liter, 5-month arithmetic mean; and
 - d. Total coliform level of 1000 (Log₁₀ 3) colony forming units per 100 milliliters, 95th percentile.
 2. An intermittent sand filter with a bottomless filter design is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
 - a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
 - b. BOD₅ of 20 milligrams per liter, 30-day arithmetic mean;
 - c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 - d. Total coliform level of 100,000 (Log₁₀ 5 colony forming units per 100 milliliters, 95th percentile.

Arizona Administrative Register
Notices of Final Rulemaking

- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the media proposed for use in the intermittent sand filter.
- D.** Design requirements. An applicant shall ensure that:
1. Pressurized wastewater delivery is from the septic tank or separate watertight chamber with a pump sized and controlled to deliver the pretreated wastewater to the top of the intermittent sand filter. The applicant shall ensure that the dosing rate is at least four doses per day and not more than 24 doses per day;
 2. The pressurized wastewater delivery system provides even distribution in the sand filter through good engineering practice. The applicant shall:
 - a. Specify all necessary controls, pipe, valves, orifices, filter cover materials, gravel, or other distribution media, and monitoring and servicing components in the design documents;
 - b. Ensure that the cover and topsoil is six to 12 inches in depth and graded to drain.
 3. The sand filter containment vessel is watertight, structurally sound, durable, and capable of withstanding stress from installation and operational service. Intermittent sand filter placement may be above grade, partially buried, or fully buried depending on site and service circumstances;
 4. Media used in the intermittent sand filter is mineral sand and that media is washed and conforms to "Standard Specification for Concrete Aggregates," (C 33-99a^{EL}), which is incorporated by reference in R18-9-E308(D)(2)(a);
 5. The sand media depth is a minimum of 24 inches with the top and bottom surfaces level and the maximum wastewater loading rate is 1.2 gallons per day per square foot of inlet surface at the rated daily design flow;
 6. The underdrain system:
 - a. Is within the containment vessel;
 - b. Supports the filter media and all overlying loads from the unsupported construction above the top surface of the sand media;
 - c. Has sufficient void volume above normal high level of the intermittent sand filter effluent to prevent saturation of the bottom of the sand media by a 24-hour power outage or pump malfunction; and
 - d. Includes necessary monitoring, inspection, and servicing features;
 7. Inspection ports are installed in the distribution media and in the underdrain;
 8. The bottomless filter is designed similar to the underdrain system, except that the sand media is positioned on top of the native soil absorption surface. The applicant shall ensure that companion modifications are made that eliminate the containment vessel bottom and underdrain and relocate the underdrain inspection port to ensure reliable indication of the presence or absence of water saturation in the sand media;
 9. The native soil absorption system is designed to ensure that the linear loading rate does not exceed site disposal capability; and
 10. The bottomless sand filter discharge rate per unit area to the native soil does not exceed the adjusted soil application rate for the quality of wastewater specified in subsection (B)(2).
- E.** Installation requirements. An applicant shall place the containment vessel, underdrain system, filter media, and pressurized wastewater distribution system in an excavation with adequate foundation and each layer installed to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter within the sand media.
- F.** Operation and maintenance requirements. The applicant shall follow the applicable requirements specified in R18-9-A313.

R18-9-E311. 4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.11 General Permit allows a peat filter receiving wastewater treated to a quality equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "peat filter" means a disposal technology characterized by:
 - a. The dosed delivery of treated wastewater to the peat bed, which can be a manufactured module or a disposal bed excavated in native soil and filled with compacted peat;
 - b. Wastewater passing through the peat that is further treated by removal of positively charged molecules, filtering, and biological activity before entry into native soil; and
 - c. If the peat filter system is constructed as a disposal bed filled with compacted peat, wastewater that is absorbed into native soil at the bottom and sides of the bed.
 2. An applicant may configure a modular system if a portion of the wastewater that has passed through the peat filter is recirculated back to the pump chamber.
 3. An applicant may use a peat filter system if:
 - a. The native soil is excessively permeable,
 - b. There is little native soil overlying fractured or excessively permeable rock,
 - c. Reduction in setback distances or minimum vertical separation is desired, or
 - d. Cold weather reduces effectiveness of other disposal sites.
- B.** Performance. An applicant shall ensure that a peat filter is designed on the basis that it produces treated wastewater that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean;

Arizona Administrative Register
Notices of Final Rulemaking

2. BOD₅ of 15 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
 4. Total coliform level of 100,000 (Log₁₀ 5) colony forming units per 100 milliliters, 95th-percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Specifications for the peat media proposed for use in the filter or provided in the peat module, including the porosity, surface area, and moisture content;
 - a. A statement of whether the peat is air dried, and whether the peat is from sphagnum moss or bog cotton; and
 - b. A description of the degree of decomposition.
 2. Specifications for installing the peat media; and
 3. If a peat module is used:
 - a. The name and address of the manufacturer.
 - b. The model number, and
 - c. A copy of the manufacturer's warranty.
- D.** Design requirements.
1. If a pump tank is used to dose the peat module or bed, an applicant shall:
 - a. Ensure that liquid volume meets or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water alarm to contain the daily design flow volume; and
 - b. Use a control panel with a programmable timer to dose approximately 1/12 of the maximum daily design flow plus the drain-back, if applicable, every two hours.
 2. Peat module system. The applicant shall:
 - a. Size the gravel bed supporting the peat filter modules to allow it to act as a disposal field. The applicant shall ensure that the bed is level, long, and narrow, and installed on contour to optimize lateral movement away from the disposal area;
 - b. Ensure that the minimum module system size is adequate to treat 500 gallons per day. The applicant shall add modules to accommodate additional design flow;
 - c. For modules designed to allow wastewater flow through the peat filter and base material into underlying native soil, size the base on which the modules rest to accommodate the soil absorption rate of the native soil;
 - d. Place fill over the module so that it conforms to the manufacturer's specification if the specification is consistent with this Chapter. If the fill is planted, the applicant shall use only grass or shallow rooted plants; and
 - e. Ensure that the peat media depth is a minimum of 24 inches and the peat is installed with the top and bottom surfaces level. The applicant shall ensure that the maximum wastewater loading rate is 5.0 gallons per day per square foot of inlet surface at the rated daily design flow.
 3. Peat filter bed system. The applicant shall ensure that:
 - a. The bed is filled with peat derived from sphagnum moss and compacted according to the installation specification;
 - b. The maximum wastewater loading rate is one gallon per day per square foot of inlet surface at the rated daily design flow;
 - c. At least 24 inches of installed peat underlies the distribution piping and 10 to 14 inches of installed peat overlies the piping;
 - d. The cover material over the peat filter bed is slightly mounded to promote runoff of rainfall. The applicant shall not place additional fill over the peat; and
 - e. The peat is derived from decomposed sphagnum moss or roots of the plant Eriophorum (bog cotton). The applicant shall ensure that the peat is air dried, with a porosity greater than 90%, and a surface area at least 190 square meters per gram.
- E.** Installation requirements. The applicant shall:
1. Peat module system.
 - a. Compact the bottom of all excavations for the filter modules, pump, aerator, and other components to provide adequate foundation, slope toward the discharge to minimize ponding, and ensure that the bottom is flat, and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
 - b. Place the peat filter modules on a level, six inch deep gravel bed;
 - c. Place backfill around the modules and grade the backfill to divert surface water away from the modules;
 - d. Not place objects on or move objects over the system area that might damage the module containers or restrict airflow to the modules;
 - e. Cover gaps between modules to prevent damage to the system;
 - f. Fit each system with at least one sampling port that allows collection of wastewater at the exit from the final treatment module;

- g. Provide the modules and other components with anti-buoyancy devices to ensure stability in the event of flooding or high water table conditions; and
 - h. Provide a mechanism for draining the filter module inlet line.
2. Peat filter bed system. The applicant shall:
 - a. Scarify the bottom and sides of the leaching bed excavation to remove any smeared surfaces. The applicant shall:
 - i. Unless directed by an installation specification consistent with this Chapter, place peat media in the excavation in six inch lifts; and
 - ii. Compact each lift before the next lift is added. The applicant shall take care to avoid compaction of the underlying native soil.
 - b. Lay distribution pipe in trenches cut in the compacted peat. The applicant shall:
 - i. Ensure that at least three inches of aggregate underlie the pipe to reduce clogging of holes or scouring of the peat surrounding the pipe, and
 - ii. Place peat on top of and around the sides of the pipes.
- F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall inspect the finished grade over the peat filter for proper drainage, protection from damaging loads, and root invasion of the wastewater distribution system and perform maintenance as needed.

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Design Flow

- A. A 4.12 General Permit allows a textile filter receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.**
- 1. Definition.** For purposes of this Section, a “textile filter” means a disposal technology characterized by:
 - a. The flow of wastewater into a packed bed filter in a containment structure or structures. The packed bed filter uses a textile filter medium with high porosity and surface area;**
 - b. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action.**
 - 2. An applicant may use a textile filter in conjunction with a two-compartment septic tank or a two-tank system if the second compartment or tank is used as a recirculation and blending tank. A portion of the wastewater flow from the textile filter shall be diverted back into the second tank for further treatment.**
 - 3. An applicant may use a textile filter if nitrogen reduction is desired or as an alternative to a sand filter if delivering sand with the required properties is difficult or expensive.**
- B. Performance.** An applicant shall ensure that a textile filter is designed on the basis that it produces treated wastewater that meets the following criteria:
- 1. TSS of 15 milligrams per liter, 30-day arithmetic mean;**
 - 2. BOD₅ of 15 milligrams per liter, 30-day arithmetic mean;**
 - 3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(4); and**
 - 4. Total coliform level of 100,000 (Log₁₀ 5) colony forming units per 100 milliliters, 95th percentile.**
- C. Notice of Intent to Discharge.** In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
- 1. The name and address of the filter manufacturer;**
 - 2. The filter model number;**
 - 3. A copy of the manufacturer’s filter warranty;**
 - 4. If the system is for nitrogen reduction to 15 milligrams per liter, five-month arithmetic mean, specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data;**
 - 5. The manufacturer’s operation and maintenance recommendations to achieve a 20-year life; and**
 - 6. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer’s warranty.**
- D. Design requirements.** An applicant shall ensure that:
- 1. The textile medium has a porosity of greater than 80%;**
 - 2. The wastewater is delivered to the textile filter by gravity flow or a pump;**
 - 3. If a pump tank is used to dose the textile module or modules, it meets the following criteria:**
 - a. Liquid volume equals or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water level alarm to contain the design flow volume, and**
 - b. A control panel with a programmable timer is used to dose approximately 1/12 of the maximum daily design flow (plus the drain-back if applicable) every two hours.**
- E. Installation requirements.** An applicant shall:
- 1. Before placing the filter modules, slope the bottom of the excavation for the modules toward the discharge point to minimize ponding;**

2. Ensure that the bottom of all excavations for the filter modules, pump, aerator, or other components is level and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
 3. Provide the modules and other components with anti-buoyancy devices to ensure they remain in place in the event of high water table conditions; and
 4. Provide a mechanism for draining the filter module inlet line.
- F.** Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall not flush corrosives or other materials known to damage the textile material into any drain that transmits wastewater to the on-site wastewater treatment facility.

R18-9-E313. 4.13 General Permit: RUCK® System, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.13 General Permit allows residential applications for a RUCK® system.
1. Definition. For purposes of this Section a “RUCK® system” means a proprietary treatment and disposal system for residential applications that requires segregated drains for conducting dishwater, kitchen sink, and toilet flush water to a black water tank and all other wastewater to a gray water tank.
 - a. Treated wastewater from each tank is delivered to a proprietary, engineered composite disposal bed system that includes an upper distribution pipe to deliver treated black water to a proprietary, columnar, sand-filled bed.
 - b. The wastewater drains downward into a sand bed, then into a pea gravel bed with an internal distribution pipe system that delivers the treated gray water.
 - c. The entire composite bed is constructed within an excavation about six feet deep.
 - d. The system typically operates under gravity flow from the black water and gray water pretreatment tanks.
 - e. A proprietary sampling assembly is installed at the midpoint of the disposal line run and at the base of the composite bed during construction to monitor system performance.
 2. An applicant may use a RUCK® system, which is typically limited to soil conditions where a standard system described in R18-9-E302 is acceptable, if the total nitrogen content in the wastewater is reduced before release to the native soil.
- B.** Performance. An applicant shall ensure that a RUCK® system is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams per liter, five-month arithmetic mean, if demonstrated under subsection (D); and
 4. Total coliform level of 1,000,000 (Log₁₀ 6) colony forming units per 100 milliliters, 95th percentile.
- C.** Reference design. An applicant may design and install a RUCK® system achieving the performance requirements specified in subsection (B) by following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant’s submittal of the Notice of Intent to Discharge.
- D.** Alternative design. An applicant may submit an alternative design to the RUCK® system if, following the requirements in R18-9-A312(G), the design achieves equal or better performance than that specified in subsection (B).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant’s submittal of the Notice of Intent to Discharge.
 3. If nitrogen reduction to a level from 15 to less than 30 milligrams per liter is proposed, the applicant shall ensure that the supplemental information includes specifications on system nitrogen reduction performance and corroborating third-party test data.

R18-9-E314. 4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.14 General Permit allows a sewage vault that receives sewage.
1. An applicant pumping a sewage vault for disposal shall comply with state and local laws, rules, and ordinances.
 2. An applicant may use a sewage vault if there is a severe site constraint that prevents a conventional septic tank and disposal field system or any other alternative provided by general permit from being installed.
 3. An applicant may install a sewage vault as a temporary measure if the applicant will install another on-site wastewater treatment facility within two years.
- B.** Performance. An applicant shall not allow a discharge from a sewage vault to the native soil or land surface. The applicant shall dispose of vault contents at a sewage treatment facility or other sewage disposal mechanism allowed by law.
- C.** Restrictions. An applicant shall not install a sewage vault:
1. If a high groundwater table impinges on the vault;
 2. Unless the applicant has a service contract from a licensed waste hauler to periodically pump out the vault; or
 3. If the capacity of the vault is less than 450 gallons per bedroom or 75 gallons per fixture, whichever is larger.

Arizona Administrative Register
Notices of Final Rulemaking

D. Reference design.

1. An applicant may design and install a sewage vault that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge.

E. Alternative design. An applicant may submit an alternative to the reference design for a sewage vault if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).

1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge.

R18-9-E315. 4.15 General Permit: Aerobic System with Subsurface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.15 General Permit allows for an aerobic system that consists of an aerator for treatment and a subsurface absorption field for disposal of treated wastewater.

1. Definition. For purposes of this Section, an "aerobic system with subsurface disposal" means the mechanical introduction of oxygen to wastewater, followed by clarification and pressure or gravity distribution to a subsurface soil absorption field.
2. An applicant may use an aerobic system with subsurface disposal if:
 - a. Enhanced biochemical processing is needed to treat wastewater with high organic content.
 - b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302.
 - c. A highly treated and disinfected wastewater is needed, or
 - d. Nitrogen removal is needed and the design meets other requirements of this general permit.

B. Performance. An applicant shall ensure that an aerobic system with subsurface disposal is designed on the basis that the treated wastewater released to the native soil meets the following criteria:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C); and
4. Total coliform level of 300,000 (Log₁₀ 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Evidence of performance specified in subsection (B);
2. The name and address of the treatment unit manufacturer;
3. The model number;
4. A copy of the manufacturer's warrantee and operation and maintenance recommendations to achieve performance for a 20-year life; and
5. If nitrogen reduction to a level from 15 to less than 53 milligrams per liter is proposed, specifications on system nitrogen reduction performance and corroborating third party test data.

D. Design requirements. An applicant shall ensure that the wastewater is delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump. The Director shall require an interceptor or other pretreatment device if needed to meet the performance criteria specified in subsection (B) or the manufacturer recommends a device if a garbage disposal appliance is used.

E. Installation requirements. An applicant shall ensure that:

1. The installation of the aerobic treatment components conforms to manufacturer's specifications that are consistent with this Chapter and the design documents specified in the Provisional Verification of General Permit Conformance; and
2. Excavation and foundation work, and backfill placement is performed to prevent differential settling and adverse drainage conditions.

F. Operation and maintenance requirements. The permittee shall follow the applicable requirements in R18-9-A313.

R18-9-E316. 4.16 General Permit: Aerobic System with Surface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.16 General Permit allows an aerobic system that consists of an aerator for treatment and surface absorption field for disposal of treated wastewater.

1. Definition. For purposes of this Section, an "aerobic system with surface disposal" means:
 - a. Mechanical introduction of oxygen to wastewater followed by clarification and disposal to the land surface, and
 - b. The wastewater is disinfected using a technology authorized in R18-9-E320 before disposal to the land surface.

2. An applicant may use an aerobic system with surface disposal if:
 - a. Enhanced biochemical processing is needed to treat wastewater with high organic content.
 - b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or
 - c. A highly treated and disinfected wastewater is needed.
- B.** Performance. An applicant shall ensure that an aerobic system with surface disposal is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
 1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean;
 4. A total coliform level of Log₁₀0 colony forming units per 100 milliliters, 99th percentile. Disinfection is by a method established under R18-9-E320.
- C.** Additional requirements. An applicant shall:
 1. Ensure that treated wastewater complies with any applicable National Pollution Discharge Elimination System permit limits;
 2. Prevent discharge of inadequately treated wastewater to the environment by means of a fail-safe mechanism, included in the system design; and
 3. Use sprinkler, bubbler heads, or other components that provide dispersal to optimize wastewater loading rates and prevent ponding on the land surface.
- D.** Reference design.
 1. An applicant may design and install an aerobic system with surface disposal that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.
- E.** Alternative design. An applicant may submit an alternative to the reference design for an aerobic system with surface disposal if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).
 1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

R18-9-E317. 4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.17 General Permit allows a cap fill cover over a conventional shallow trench disposal field receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
 1. Definition. For purposes of this Section, a "cap system" means a disposal technology characterized by:
 - a. A soil cap, consisting of engineered fill placed over a trench that is reduced in depth compared to a standard trench allowed by R18-9-E302; and
 - b. A design that compensates for reduced trench depth by maintaining and enhancing the infiltration of wastewater into native soil through the trench sidewalls.
 2. An applicant may use a cap system if there is little native soil overlying fractured or excessively permeable rock or a high water table does not allow the minimum vertical separation to be met by a system authorized by R18-9-E302.
- B.** Performance. An applicant shall ensure that the design soil absorption rate, disposal density, and vertical separation complies with this Chapter for a shallow trench, based on the following performance, unless additional pretreatment is provided:
 1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 150 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 4. Total coliform level of 100,000,000 (Log₁₀ 8) colony forming units per 100 milliliters, 95th percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B), R18-9-A309(B), an applicant shall submit specifications for the proposed cap fill material.
- D.** Design requirements.
 1. An applicant shall ensure that the soil texture from the natural grade to the depth of the layer or the water table that limits the soil for unsaturated wastewater flow is no finer than silty clay loam.
 2. An applicant shall ensure that cap fill material used is free of debris, stones, frozen clods, or ice, and is the same as or one soil group finer than that of the disposal site material, except that fill material finer than clay loam shall not be used as an additive.
 3. Trench construction. The applicant shall ensure that:
 - a. The trench bottom is at least 12 inches below the bottom of the disposal pipe and not more than 24 inches below the natural grade, and the trench bottom and disposal pipe are level;

Arizona Administrative Register
Notices of Final Rulemaking

- b. The aggregate cover over the disposal pipe is two inches thick and the top of the aggregate cover is level and not more than nine inches above the natural grade;
 - c. The cap fill cover above the top of the aggregate cover is at least nine inches but not more than 18 inches thick and has sloped sides not more than one vertical to three horizontal. The applicant shall ensure that:
 - i. The horizontal extent of the finished fill edges is at least 10 feet beyond the nearest trench sidewall or end-wall; and
 - ii. Intersecting fill surfaces are sloped to route surface drainage around the ends of the trench.
 - d. The criteria for trench length, bottom width and spacing, and disposal pipe size is the same as that for the shallow trench system prescribed in R18-9-E302;
 - e. Permeable geotextile fabric is placed on the aggregate top, trench end, and sidewalls extending above natural grade;
 - f. The native soil within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance does not exceed a 12% slope if the top of the aggregate cover extends above the natural grade at any location along the trench length. The applicant shall ensure that the slope within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance does not exceed 20% if the top of the aggregate cover does not extend above the natural grade;
 - g. The fill material is compacted to a density of 90% of the native soil if the invert elevation of the disposal pipe is at or above the natural grade at any location along the trench length;
 - h. At least one observation port is installed to the bottom of each cap fill trench;
 - i. The effective absorption area for each trench is the sum of the trench bottom area and the sidewall area. The height of the sidewall used for calculating the sidewall area is the vertical distance between the trench bottom and the lowest point of the natural land surface along the trench length;
 - j. The applicant may apply the correction factors for soil absorption rate under R18-9-A312(D)(3) and minimum vertical separation under R18-9-A312(E) if additional wastewater pretreatment is provided.
- E.** Installation requirements. An applicant shall prepare the disposal site when high soil moisture is not present and equipment operations do not create platy soil conditions. The applicant shall:
- 1. Plow or scarify the fill area to disrupt the vegetative mat while avoiding smearing.
 - 2. Construct trenches as specified in subsection (D)(3).
 - 3. Scarify the site and apply part of the cap fill to the fill area and blend the fill with the scarified native soil within the contact layers, and
 - 4. Follow the construction design specified in the Provisional Verification of General Permit Conformance.
- F.** Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall inspect and repair the cap fill and other surface features as needed to ensure proper disposal function, proper drainage of surface water, and prevention of damaging loads on the cap.

R18-9-E318. 4.18 General Permit: Constructed Wetland, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.18 General Permit allows a constructed wetland receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
- 1. A constructed wetland is a treatment technology characterized by a lined excavation, filled with a medium for growing plants and planted with marsh vegetation. The treated wastewater flows horizontally through the medium in contact with the aquatic plants.
 - 2. As the wastewater flows through the wetland system, additional treatment is provided by filtering, settling, volatilization, and evapotranspiration.
 - 3. The wetland system allows microorganisms to break down organic material and plants to take up nutrients and other pollutants.
 - 4. The wastewater treated by a wetland system is discharged to a subsurface soil disposal system.
 - 5. A constructed wetland is considered if further wastewater treatment is needed before disposal.
- B.** Performance. An applicant shall ensure that a constructed wetland is designed on the basis that it produces treated wastewater that meets the following criteria:
- 1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
 - 2. BOD₅ of 20 milligrams per liter, 30-day arithmetic mean;
 - 3. Total nitrogen (as nitrogen) of 45 milligrams per liter, five-month arithmetic mean; and
 - 4. Total coliform level of 100,000 (Log₁₀ 5) colony forming units per 100 milliliters, 95th percentile.
- C.** Reference design.
- 1. An applicant may design and install a constructed wetland that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
 - 2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.
- D.** Alternative design. An applicant may submit an alternative to the reference design for a constructed wetland if, following the requirements under R18-9-A312(G), the design achieves the performance requirements in subsection (B).

1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.

R18-9-E319. 4.19 General Permit: Sand Lined Trench, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.19 General Permit allows a sand lined trench receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "sand lined trench" means a disposal technology characterized by:
 - a. Engineered placement of sand or equivalently graded glass in trenches excavated in native soil,
 - b. Wastewater dispersed throughout the media by a timer-controlled pump in periodic uniform doses that maintain unsaturated flow conditions, and
 - c. Wastewater treated during travel through the media and absorbed into the native soil at the bottom of the trench.
 2. An applicant may use a sand lined trench if:
 - a. The native soil is excessively permeable,
 - b. There is little native soil overlying fractured or excessively permeable rock, or
 - c. Reduction in setback distances, or minimum vertical separation is desired.
- B.** Performance. An applicant shall ensure that a sand lined trench is designed on the basis that treated wastewater released to the native soil meets the following criteria:
1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
 2. BOD5 of 20 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 4. Total coliform level of 100,000 (Log10 5) colony forming units per 100 milliliters, 95th percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the proposed media in the trench.
- D.** Design requirements.
1. An applicant shall ensure that media used in the trench is mineral sand, crushed glass, or cinder sand and that:
 - a. The media conforms to "Standard Specifications for Concrete Aggregates," (C 33-99a^{EL}), which is incorporated by reference in R18-9-E308(D)(2)(a), "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing," (C 117-95), approved March 15, 1995, or an equivalent approved method. This information is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959; and
 - b. Sieve analysis complies with the "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing," (C 117-95), which is incorporated by reference in subsection (D)(1)(a), or an equivalent approved method.
 2. Trenches. The applicant shall ensure that:
 - a. The spacing between trenches is at least two times the depth of the trench bottom below finished grade;
 - b. The inlet filter media surface, wastewater distribution pipe, and bottom of the trench is level and the maximum effluent loading rate is not more than 1.0 gallon per day per square foot of sand media inlet surface;
 - c. The depth of sand below the gravel layer containing the distribution system is at least 24 inches;
 - d. The gravel layer containing the distribution system is five to 12 inches thick, at least 36 inches wide, and level;
 - e. Permeable geotextile fabric is placed at the base of and along the sides of the gravel layer, as necessary. The applicant shall ensure that:
 - i. Geotextile fabric is placed on top of the gravel layer, and
 - ii. Any cover soil placed on top of the geotextile fabric is capable of maintaining vegetative growth while allowing passage of air.
 - f. At least one observation port is installed to the bottom of each sand lined trench;
 - g. If the trench is installed in excessively permeable soil or rock, at least one foot of loamy sand is placed in the trench below the filter media. The minimum vertical separation distance is measured from the bottom of the loamy sand; and
 - h. The trench design is based on the design flow, native soil absorption area of the trench, minimum vertical separation below the trench bottom, design effluent infiltration rate at the top of the sand fill, and the adjusted soil absorption rate for the final effluent quality.
 3. The applicant shall ensure that the dosing system consists of a timer-controlled pump, electrical components, and distribution network and that:
 - a. Orifice spacing on the distribution piping does not exceed four square feet of media infiltrative surface area per orifice, and
 - b. The dosing rate is at least four doses per day and not more than 24 doses per day.

Arizona Administrative Register
Notices of Final Rulemaking

- E.** Installation requirements. An applicant shall ensure that the filter media shall be placed in the trench to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter.
- F.** Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall ensure that:
1. The septic tank filter and pump tank are inspected and cleaned;
 2. The dosing tank pump screen, pump switches, and floats are cleaned yearly and any residue is disposed of; and
 3. Lateral lines are flushed and the liquid waste discharged into the treatment system headworks.

R18-9-E320. 4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.20 General Permit allows a disinfection device that receives wastewater from a septic tank or other treatment device of an on-site wastewater treatment facility, authorized by a general permit, and reduces the level of harmful microorganisms in the wastewater during passage through the device.
1. The disinfection device kills the microorganisms by exposing the wastewater to heat, radiation, or a chemical disinfectant.
 2. Some means of disinfection require detention before discharge.
 3. A disinfection device is considered if a reduction in harmful microorganisms, as measured by the total coliform level, is needed for surface or near surface disposal of the wastewater or if reduction of the minimum vertical separation distance specified in R18-9-A312(E) is desired.
- B.** Restrictions.
1. Unless designed to operate without electricity, an applicant shall not install a disinfection device if electricity is not permanently available at the site.
 2. This general permit does not authorize a disinfection device that releases chemical disinfectants or disinfection byproducts harmful to plants or wildlife in the discharge area or causes a violation of an Aquifer Water Quality Standard.
- C.** Performance. An applicant shall ensure that:
1. The required performance of a disinfection device is dependent on the level of disinfection needed for a particular type of disposal; and
 2. For an on-site device wastewater treatment facility with discharge to the land surface, the disinfection device in conjunction with all preceding treatment processes produces treated wastewater that meets the following criteria:
 - a. A total coliform level of Log₁₀ 0 colony forming units per 100 milliliters, 99th percentile;
 - b. Dissolved oxygen content of at least six milligrams per liter;
 - c. Clear and odorless appearance.
- D.** Operation and maintenance. A permittee shall:
1. If the disinfection device relies on the addition of chemicals for disinfection, ensure that the device is operated to minimize the discharge of disinfection chemicals while achieving the required level of disinfection; and
 2. Incorporate of a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.
- E.** Reference design.
1. An applicant may design and install a disinfection device that achieves the performance requirements in subsection (C) by following a reference design on file with the Department.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.
- F.** Alternative design. An permittee may submit an alternative to the reference design for a disinfection device if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (C).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

R18-9-E321. 4.21 General Permit: Sequencing Batch Reactor, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.21 General Permit allows a sequencing batch reactor that consists of at least two vessels, a receiving vessel, and a process vessel, in which the key unit treatment processes, such as aeration and settlement, are sequenced one after the other in the process vessel.
1. The treatment process is similar to that which occurs in aerobic systems described in other general permits except that in an aerobic system, separate vessels or partitions of the vessel are used for each unit treatment step.
 2. Sequencing batch reactors are considered for use if:
 - a. Enhanced biochemical processing is needed to treat wastewater with high organic content.
 - b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or
 - c. A more highly treated and disinfected wastewater is needed.

- B.** Performance. An applicant shall ensure that a sequencing batch reactor is designed on the basis that it produces treated wastewater that meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean. If a total nitrogen level from 15 to 53 milligrams per liter is proposed, the applicant shall submit the specifications on system nitrogen reduction performance and corroborating third party test data with the Notice of Intent; and
 4. Total coliform level of 300,000 (Log₁₀ 5.5) colony forming units per 100 milliliters, 95th percentile.
- C.** Reference design.
1. An applicant may design and install a sequencing batch reactor that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
 2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.
- D.** Alternative design.
1. An applicant may submit an alternative to the reference design for a sequencing batch reactor that achieves equal or better performance than that specified in subsection (B), by following the requirements in R18-9-A312(G).
 2. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
 3. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

R18-9-E322. 4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.22 General Permit allows a subsurface drip irrigation disposal system that receives high quality wastewater from an advanced on-site wastewater treatment facility and dispenses it to an irrigation system that is buried at a shallow depth in native soil. The Director may require a thin layer of soil or engineered fill cover on the surface of the native soil, depending on wastewater quality delivered to the drip emitters.
1. The drip irrigation disposal system is designed to disperse the treated wastewater into the soil under unsaturated conditions by pressure distribution and timed dosing.
 2. A subsurface drip irrigation disposal system reduces the downward percolation of wastewater by enhancing evapotranspiration to the atmosphere.
 3. Drip irrigation disposal systems are considered if high groundwater, shallow soils, slowly permeable soils, or highly permeable soils are present at the site or if water conservation is needed.
- B.** Performance. An applicant shall ensure that:
1. A drip irrigation system is delivered treated wastewater that meets the following criteria:
 - a. A category "A" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
 - i. TSS of 10 milligrams per liter, 30-day arithmetic mean;
 - ii. BOD₅ of 10 milligrams per liter, 30-day arithmetic mean;
 - iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 - iv. Total coliform level of 10 (Log₁₀ 1) colony forming units per 100 milliliters, 95th percentile.
 - b. A category "B" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
 - i. TSS of 20 milligrams per liter, 30-day arithmetic mean;
 - ii. BOD₅ of 20 milligrams per liter, 30-day arithmetic mean;
 - iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
 - iv. Total coliform level of 100 (Log₁₀ 2) colony forming units per 100 milliliters, 95th percentile.
 2. A drip irrigation system of category "A" or category "B" shall be designed to meet the following performance criteria:
 - a. No ponding on the land surface,
 - b. Evapotranspiration of at least 50% of the emitted wastewater to the atmosphere, and
 - c. Incorporation of a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. Documentation of the pretreatment method proposed to achieve the wastewater criteria specified in subsection (B)(1), such as the type of pretreatment system and the manufacturer's warranty;
 2. Initial filter and drip irrigation flushing settings;
 3. Calculations of the site evaporation rate;
 4. Design calculations, showing the number of perennial plants needed to achieve the required evapotranspiration rate; and

Arizona Administrative Register
Notices of Final Rulemaking

5. If supplemental irrigation water is introduced to the drip system, the volume and volume percent of the supplemental water.
- D. Design requirements.** An applicant shall ensure that:
 1. Drip irrigation lines and emitters are properly placed.
 - a. Category "A" drip system. The applicant shall ensure that:
 - i. Unless the manufacturer specifies deeper placement, lines and emitters are placed from six to 12 inches below the surface of the native soil; and
 - ii. Soil is replaced over the top of the drip system components.
 - b. Category "B" drip system. The applicant shall ensure that:
 - i. Unless the manufacturer specifies otherwise, lines and emitters are placed more than six inches below the surface of the native soil; and
 - ii. A cover of soil or engineered fill is placed on the surface of the native soil to achieve a total emitter burial depth of at least 12 inches;
 2. Wastewater is filtered to remove particles 100 microns in size and larger;
 3. Applicable requirements under R18-9-E304 for pressure distribution systems are followed;
 4. A pressure regulator assures that excessive operating pressure or surges do not damage the drip irrigation system;
 5. Wastewater distribution pipe is Schedule 40 PVC or better, sized for a flow velocity during flushing of at least two feet per second;
 6. The system is designed to flush the irrigation components with wastewater. The applicant shall ensure that piping and valves allow the wastewater to be pumped in a line flushing mode of operation with discharge returned to the treatment system headworks;
 7. Air vacuum release valves are installed to prevent water and soil drawback into the emitter;
 8. Emitters are spaced no more than two feet apart. The applicant shall ensure that:
 - a. Drip lines are placed from 12 to 24 inches apart unless variations in spacing allow preservation of existing trees and shrubs or enhance performance to overcome site limitations;
 - b. Emitters shall be designed to discharge from 0.5 to 1.5 gallons per hour.
 9. A suitable backflow prevention system is installed if supplemental water for irrigation is introduced to the pumping system. The applicant shall not introduce supplemental water to the treatment system;
 10. Plants are selected with regard to the ability of each species to maintain evapotranspiration rates and absorb nutrients;
 11. Drip irrigation is used in soils graded as:
 - a. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure or in soil with a percolation rate from 45 to 120 minutes per inch; and
 - b. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure or in soil with a percolation rate from 31 to 120 minutes per inch.
 12. The minimum vertical separation distances are 1/2 of those specified in R18-9-A312(E)(2) if the design evapotranspiration rate is 50% or more of design flow, except that the minimum vertical separation distance shall not be less than one foot.
- E. Installation requirements.** An applicant shall ensure that:
 1. The irrigation pipe is installed by a plow mechanism that cuts a furrow, dispenses pipe, and covers the irrigation pipe in one operation, or a trencher and hand tools that dig a trench not more than four inches wide;
 2. Drip irrigation pipe has an incorporated herbicide to prevent root intrusion for at least 10 years and an incorporated bactericide to reduce bacterial slime build-up. The applicant shall store drip irrigation pipe to preserve the herbicidal and bactericidal characteristics of the pipe.
- F. Operation and maintenance requirements.** In addition to the applicable requirements in R18-9-A313, the permittee shall test the fail-safe mechanism quarterly to prevent discharge of inadequately treated wastewater.

R18-9-E323. 4.23 General Permit: 3000 to less than 24,000 Gallons Per Day Design Flow

- A.** A 4.23 General Permit allows on-site wastewater treatment facilities with a design flow from 3000 gallons per day to less than 24,000 gallons per day if all of the following apply:
1. Except as specified in subsection (A)(3), the treatment and disposal works consists of technologies or designs that are covered under other general permits, but are sized larger to accommodate increased flows.
 2. The on-site wastewater treatment facility complies with all applicable requirements of this Chapter.
 3. The facility is not a system or a technology covered by one of the following general permits available for a design flow of less than 3000 gallons per day:
 - a. An aerobic system with subsurface disposal, described in R18-9-E315;
 - b. An aerobic system with surface disposal, described in R18-9-E316;
 - c. A disinfection device, described in R18-9-E320;
 - d. A sequencing batch reactor, described in R18-9-E321; or
 - e. A seepage pit or pits, described in R18-9-E302.

- B.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A performance assurance plan consisting of tasks, schedules, and estimated annual costs for operating, maintaining, and monitoring performance over a 20-year useful service life;
 2. Design documents and the performance assurance plan sealed by an Arizona-registered professional engineer;
 3. Any documentation submitted under the alternative design procedure in R18-9-A312(G) that pertains to achievement of better performance levels than those specified in the general permit for the corresponding facility with a design flow of less than 3000 gallons per day, or for any other alternative design, construction, or operational change proposed by the applicant.
- C.** Additional Verification of General Permit Conformance requirements. In addition to any other requirements, the applicant shall submit the following information before the Verification of General Permit Conformance is issued.
1. A signed and sealed Engineer's Certificate of Completion in a format approved by the Department affirming that:
 - a. The project was completed in compliance with the requirements of this Section and as described in the plans and specifications, or
 - b. Any changes are reflected in as-built plans submitted with the Engineer's Certificate of Completion.
 2. The name of a certified operator or service company that is responsible for implementing the performance assurance plan.
- D.** Reporting requirement. The permittee shall annually provide the Department with:
1. A form signed by the certified operator or service company that:
 - a. Provides any data or documentation required by the performance assurance plan,
 - b. Certifies compliance with the requirements of the performance assurance plan, and
 - c. Describes any additions to the system during the year that increased flows and certifies that the flow did not exceed 24,000 gallons per day during any day.
 2. Any applicable fee required by 18 A.A.C. 14.

Arizona Administrative Register
Notices of Final Rulemaking

Table 1. Unit Daily Design Flows

<u>Type of Facility Served</u>	<u>Applicable Unit</u>	<u>Sewage Design Flow per Applicable Unit, Gallons Per Day</u>
<u>Airport</u>	<u>Passenger (average daily number)</u>	<u>4</u>
	<u>Employee</u>	<u>15</u>
<u>Apartment Building</u>	<u>Resident (if max. number fixed)</u>	<u>100</u>
<u>1 bedroom</u>	<u>Apartment</u>	<u>200</u>
<u>2 bedroom</u>	<u>Apartment</u>	<u>300</u>
<u>3 bedroom</u>	<u>Apartment</u>	<u>400</u>
<u>4 bedroom</u>	<u>Apartment</u>	<u>500</u>
<u>Auto Wash</u>	<u>Facility</u>	<u>Per manufacturer, if consistent with this Chapter</u>
<u>Bar/Lounge</u>	<u>Seat</u>	<u>30</u>
<u>Barber Shop</u>	<u>Chair</u>	<u>35</u>
<u>Beauty Parlor</u>	<u>Chair</u>	<u>100</u>
<u>Bowling Alley (snack bar only)</u>	<u>Lane</u>	<u>75</u>
<u>Camp</u>		
<u>Day camp, no cooking facilities</u>	<u>Camping unit</u>	<u>30</u>
<u>Campground, overnight, flush toilets</u>	<u>Camping unit</u>	<u>75</u>
<u>Campground, overnight, flush toilets and shower</u>	<u>Camping unit</u>	<u>150</u>
<u>Campground, luxury</u>	<u>Person</u>	<u>100-150</u>
<u>Camp, youth, summer, or seasonal</u>	<u>Person</u>	<u>50</u>
<u>Church</u>		
<u>Without kitchen</u>	<u>Person (maximum attendance)</u>	<u>5</u>
<u>With kitchen</u>	<u>Person (maximum attendance)</u>	<u>7</u>
<u>Country Club</u>	<u>Resident Member</u>	<u>100</u>
	<u>Nonresident Member</u>	<u>10</u>
<u>Dance Hall</u>	<u>Patron</u>	<u>5</u>
<u>Dental Office</u>	<u>Chair</u>	<u>500</u>
<u>Dog Kennel</u>	<u>Animal, maximum occupancy</u>	<u>15</u>
<u>Hospital</u>		
<u>All flows</u>	<u>Bed</u>	<u>250</u>
<u>Kitchen waste only</u>	<u>Bed</u>	<u>25</u>
<u>Laundry waste only</u>	<u>Bed</u>	<u>40</u>
<u>Hotel/motel</u>		
<u>Without kitchen</u>	<u>Bed (2 person)</u>	<u>50</u>
<u>With kitchen</u>	<u>Bed (2 person)</u>	<u>60</u>
<u>Industrial facility</u>		
<u>Without showers</u>	<u>Employee</u>	<u>25</u>
<u>With showers</u>	<u>Employee</u>	<u>35</u>
<u>Cafeteria, add</u>	<u>Employee</u>	<u>5</u>
<u>Institutions</u>		
<u>Resident</u>	<u>Person</u>	<u>75</u>
<u>Nursing home</u>	<u>Person</u>	<u>125</u>
<u>Rest home</u>	<u>Person</u>	<u>125</u>

Arizona Administrative Register

Notices of Final Rulemaking

<u>Laundry</u> <u>Self service</u> <u>Commercial</u>	<u>Wash cycle</u> <u>Washing machine</u>	<u>50</u> <u>Per manufacturer, if</u> <u>consistent with this</u> <u>Chapter</u>
<u>Office Building</u>	<u>Employee</u>	<u>20</u>
<u>Park</u> <u>Picnic, with showers, flush toilets</u> <u>Picnic, with flush toilets only</u> <u>Recreational vehicle, no water or</u> <u>sewer connections</u> <u>Recreational vehicle, with</u> <u>water and sewer connections</u> <u>Mobile home/Trailer</u>	<u>Parking space</u> <u>Parking space</u> <u>Vehicle space</u> <u>Vehicle space</u> <u>Space</u>	<u>40</u> <u>20</u> <u>75</u> <u>100</u> <u>250</u>
<u>Residence</u> <u>Dwelling, per person (for sewer collection</u> <u>system design only)</u> <u>Dwelling, single family</u> <u>Dwelling, per bedroom if count available</u> <u>Dwelling, per fixture if count available</u> <u>Mobile home, family</u> <u>Mobile home, adults only</u> <u>Seasonal and summer</u>	<u>Person</u> <u>Dwelling (3 bedrooms assumed)</u> <u>Bedroom</u> <u>Fixture unit</u> <u>Home lot</u> <u>Home lot</u> <u>Resident</u>	<u>100</u> <u>450</u> <u>150</u> <u>25</u> <u>250</u> <u>150</u> <u>100</u>
<u>Restaurant/Cafeteria</u> <u>With toilet, add</u> <u>Kitchen waste, add</u> <u>Garbage disposal, add</u> <u>Cocktail lounge, add</u> <u>Kitchen waste disposal service, add</u>	<u>Employee</u> <u>Customer</u> <u>Meal</u> <u>Meal</u> <u>Customer</u> <u>Meal</u>	<u>20</u> <u>7</u> <u>6</u> <u>1</u> <u>2</u> <u>2</u>
<u>Restroom, public</u>	<u>Toilet</u>	<u>200</u>
<u>School</u> <u>Staff and office</u> <u>Elementary, add</u> <u>Middle and High, add</u> <u>with gym & showers, add</u> <u>with cafeteria, add</u> <u>Boarding, total flow</u>	<u>Person</u> <u>Student</u> <u>Student</u> <u>Student</u> <u>Student</u> <u>Student</u> <u>Person</u>	<u>20</u> <u>15</u> <u>20</u> <u>5</u> <u>3</u> <u>100</u>
<u>Service Station with toilets</u>	<u>First bay</u> <u>Each additional bay</u>	<u>1000</u> <u>500</u>
<u>Shopping Center, no food or laundry</u>	<u>Square foot of retail space</u>	<u>0.1</u>
<u>Store</u> <u>Public restroom, add</u>	<u>Employee</u> <u>Square foot of retail space</u>	<u>20</u> <u>0.1</u>
<u>Swimming Pool, Public</u>	<u>Person</u>	<u>10</u>
<u>Theater</u> <u>Indoor</u> <u>Drive-in</u>	<u>Seat</u> <u>Car space</u>	<u>5</u> <u>10</u>

Note: Unit flow rates published in standard texts, literature sources or relevant area or regional studies shall be considered by the Department, if appropriate to the project.

ARTICLE 2. 4. AGRICULTURAL GENERAL PERMITS

~~R18-9-201~~ R18-9-401. Definitions

In addition to the definitions established in A.R.S. §§ 49-101 and 49-201, the ~~terms of this Article shall have the following meanings following terms apply to this Article:~~

1. "Application of nitrogen fertilizer" means any use of a substance containing nitrogen for the commercial production of crop plants. The commercial production of crop plants includes commercial sod farms and nurseries.
2. "Crop plant needs" means the amount of water and nitrogen required to meet the physiological demands of the crop plant to achieve a defined yield.
3. "Crop plant uptake" means the amount of water and nitrogen ~~which~~ that can be physiologically absorbed by the roots and vegetative parts of a crop plant following the application of water.

~~R18-9-202~~ R18-9-402. Agricultural general permits: nitrogen fertilizers **General Permits: Nitrogen Fertilizers**

~~All persons~~ A person who ~~engage~~ engages in the application of a nitrogen fertilizers ~~are~~ fertilizer and ~~is~~ issued an agricultural general permit ~~and shall comply with the following agricultural best management practices listed in this Section. A person who engages in the application of nitrogen fertilizer pursuant to an agricultural general permit shall comply with all of the following:~~

1. ~~Application of nitrogen fertilizer shall be limited to that amount necessary to meet~~ Limit application of the fertilizer so that it meets projected crop plant needs;
2. ~~Application of nitrogen fertilizer shall be timed~~ Time application of the fertilizer to coincide as closely as possible to the periods of maximum crop plant uptake;
3. ~~Application of nitrogen fertilizer shall be~~ Apply the fertilizer by a method designed to deliver nitrogen to the area of maximum crop plant uptake;
4. ~~Application of~~ Manage and time application of irrigation water ~~to meet crop plant needs shall be managed to minimize nitrogen loss by leaching and runoff; and~~
5. ~~The application of irrigation water shall be timed to minimize nitrogen loss by leaching and runoff.~~
6. ~~The operator shall use~~ Use tillage practices that maximize water and nitrogen uptake by crop plants.

~~R18-9-203~~ R18-9-403. Agricultural general permits: concentrated animal feeding operations **General Permits: Concentrated Animal Feeding Operations**

~~All persons~~ A person who ~~engage~~ engages in ~~or operates a~~ concentrated animal feeding operations ~~are~~ operation and ~~is~~ issued an agricultural general permit ~~and shall comply with the following agricultural best management practices listed in this Section. A person who operates a concentrated animal feeding operation facility pursuant to an agricultural general permit shall comply with all of the following:~~

1. Harvest, stockpile, and dispose of animal manure from ~~a~~ concentrated animal feeding operations operation to minimize discharge of any nitrogen ~~pollutants~~ pollutant by leaching and runoff;
2. Control and dispose of nitrogen contaminated water resulting from ~~activities~~ an activity associated with a concentrated animal feeding operation, up to a 25-year, 24-hour storm event equivalent, to minimize the discharge of any nitrogen ~~pollutants~~ pollutant; ~~and~~
3. Close facilities in a manner ~~to that will~~ minimize the discharge of any nitrogen ~~pollutants~~ pollutant.

ARTICLE 8. SEWERAGE SYSTEMS REPEALED

~~R18-9-801. Legal authority Repealed~~

~~The rules in this Article are adopted pursuant to the authority granted by A.R.S. § 49-104(B)~~

~~R18-9-802. Definitions Repealed~~

- ~~A. "Approved" or "approval" means approved in writing by the Department.~~
- ~~B. "Department" means the Department of Environmental Quality or a local health department designated by the Department.~~
- ~~C. "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells, and other systems.~~
- ~~D. "Engineer" means the person or firm which designed the sewage works and conceived, developed, executed, or supervised the preparation of the plan documents.~~
- ~~E. "Individual disposal system" means a device or system for the treatment or disposal of sewage from a single housing unit.~~
- ~~F. "Person" means the state or any agency or institution thereof, any municipality, political subdivision, public or private corporation, individual, partnership, association, or other entity, and includes any officer or governing or managing body of any municipality, political subdivision, or public or private corporation.~~
- ~~G. "Plan documents" means reports, proposals, preliminary plans, survey and basis of design data, general and detail construction plans, profiles, specifications, and all other information pertaining to sewage works planning.~~

- H.** "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a public nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, agricultural, commercial, industrial, recreational, or other beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.
- I.** "Sewage" means wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures in residences, institutions, public and business buildings, mobile homes, water craft, and other places of human habitation, employment, or recreation.
- J.** "Sewerage system" means pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.
- K.** "Treatment works" means any plant or other works used for the purpose of treating, stabilizing, or holding wastes.
- L.** "Wastes" means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substance which may pollute or tend to pollute any waters of the State. The term "wastes" does not include agricultural irrigation and drainage waters for which water quality standards shall have been established pursuant to Chapter 11.
- M.** "Waters of the State" means all waters within the jurisdiction of this state including all streams, perennial or intermittent, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.
- N.** "Certified Water Quality Management Plan" means a plan prepared by the designated Water Quality Management Planning Agency pursuant to Section 208 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217), adopted by the Water Quality Control Council, and certified by the Governor.
- O.** "Designated management agency" means those entities designated in the Certified Water Quality Management Plans to manage sewerage systems and sewage treatment works in respective area.
- P.** "Facility plan" means the plans, specifications, and estimates for proposed sewerage systems and sewage treatment works prepared pursuant to Sections 201 and 203 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217), and submitted to the Department by and for a designated management agency.
- Q.** "Service area" means that geographic region specified for a designated management agency by the applicable Certified Water Quality Management Plan or by a subsequent Facility Plan.
- R.** "General plan" means a plan prepared by a responsible government entity.

R18-9-803. General considerations Repealed

- A.** No sewage or industrial wastes shall be permitted to flow into any of the waters, or upon or under any of the lands, of the state in any manner determined by the Department to be detrimental to the quality of the receiving body of water, or to the use of the receiving lands, or prejudicial to the health, safety or welfare of persons who may be affected by the resulting environmental condition. Where characteristics of the wastes or the receiving bodies indicate pollution to exist, treatment works as are determined to be necessary by the Department shall be installed and operated.
- B.** The use of cesspools for waste disposal is prohibited.
- C.** Individual disposal systems are prohibited under the following conditions:
 - 1. Where connection to a public sewer system is determined by the Department to be practical.
 - 2. Where soil conditions or topography are such that individual disposal systems cannot be expected to function satisfactorily, or where groundwater conditions are such that individual disposal systems may cause pollution of the groundwater supply.
 - 3. Where such installations may create an unsanitary condition or public health nuisance.
- D.** Minimum design guidelines for sewage systems, including septic tank systems, and treatment works are found in the Engineering Bulletins of the Department. Copies of these Bulletins may be obtained from the Department.
- E.** Bypassing of untreated sewage from sewage treatment systems is prohibited.

R18-9-804. Approval of plans required Repealed

- A.** No person shall begin construction of any sewerage system, including septic tank systems, treatment works, reclamation systems, or extensions of works or systems, or make any change which affects capacity, quality, flow or operational performance of a sewerage system, and no person shall install any process, device, or equipment, either in whole or in part, prior to receiving an Approval to Construct from the Department. Application for an Approval to Construct shall be submitted to the Department at least 30 days prior to the date upon which Department approval is desired. For septic tank systems, the application shall be submitted at least five working days prior to the date upon which Department approval is desired.
- B.** All applications to construct a septic tank system shall include:
 - 1. A plot plan with location of the disposal system, structures and property lines.
 - 2. Soil percolation and boring log data. General soil percolation and boring log data for a specific area may be used in lieu of individual test data if approved by the Department.
 - 3. Location of groundwater, wells, live streams, dry washes and water lines.

Arizona Administrative Register
Notices of Final Rulemaking

4. A report on the disposal system design, including the number of bedrooms or population to be served, septic tank capacity and size of leach field.
5. Additional data as may be required by the Department. Septic tank systems to serve a private residence, a hotel, motel, restaurant, service station, picnic ground, recreational area camp, or other similar place shall not be required to comply with subsections (D) and (E) of this Section.
- ~~C.~~ Except those for septic tank systems, all applications shall be accompanied by the following plan documents in duplicate:
 1. Prints or photostatic copies of drawings of the work to be done. Sufficient detail shall be shown on the drawings to make clear to the Department the scope of the work.
 2. Complete specifications to supplement the drawings.
 3. Additional data as may be required by the Department.
- ~~D.~~ The plan documents shall be accompanied by an engineering report, prepared by the designing or consulting engineer, which presents a description of the project together with all pertinent data upon which the design is based and other information necessary to permit a clear and full understanding of the work proposed to be undertaken.
- ~~E.~~ All plan documents submitted to the Department shall be prepared by, or under the supervision of, a registered professional engineer as specified under A.R.S. §§ 32-141 through 32-145, inclusive. The engineer shall affix his signature and seal of registration in the state of Arizona to all plans submitted for approval. A nonregistrant may design a wastewater treatment plant, or extensions, additions, modifications or revisions, or extensions to collection systems, if the total cost of such construction does not exceed \$12,500 as verified by a cost estimate for material and labor submitted with plan documents.
- ~~F.~~ Plans and specifications submitted to the Department shall be reviewed and, if found satisfactory, the Department shall issue an Approval to Construct. If construction has not started within one year after the date of issuance of the Approval to Construct, or there is a halt in construction of more than one year, or if the construction is not completed within three years, the Approval to Construct shall be void, unless an extension of time has been granted in writing by the Department.
- ~~G.~~ All work shall conform to the approved plans and specifications. Should it be necessary or desirable to make any change in the design which will affect capacity or sanitary features of the proposed work, revised plans and specifications, together with a written statement of the reasons for such change, shall be submitted to the Department for review, and approval shall be obtained in writing before the work affected by the change is undertaken. Structural changes or minor revisions not affecting capacity, quality, flow, or operation shall be permitted during construction without further approval. A set of "as built" drawings showing all changes made during construction shall be filed with the Department upon completion of the project.
- ~~H.~~ A sewerage system owner shall notify the Department at least seven days prior to the date when construction will begin on the sewerage system, or of any change made which will affect capacity, quality, flow or operational performance of a sewerage system, authorized by an Approval to Construct, and of the date when installation of any process, device, or equipment authorized by an Approval to Construct will begin. Notification of completion of construction shall be given by the sewerage system owner to the Department at least ten working days prior to the expected completion date to permit the scheduling of a final inspection. For a septic tank system, the notification shall be given at least five working days prior to the expected completion date.
- ~~I.~~ The Department shall not issue approval for any sewerage system or sewage treatment works which is not in conformance with the Certified Water Quality Management Plan and Facility Plan that prescribes a particular sewerage system and sewage treatment works configuration for sewage management by a designated management agency within a service area. If no Facility Plan is applicable, the Certified Water Quality Management Plan shall be utilized by the Department to determine conformance.
- ~~J.~~ The Department may issue an approval for a sewerage system or sewage treatment works which is consistent with General Plans prepared for an area when no sewerage system and sewage treatment works configuration is prescribed in the Certified Water Quality Management Plan. The Department shall confer with both the designated Water Quality Planning Agency for the area and the responsible and impacted governmental units to determine consistency with the General Plans.
- ~~K.~~ The Department shall not approve additions or sewer main extensions to a sewerage system unless both of the following conditions are met:
 1. The sewerage system is in compliance with the provisions of this Article or is making satisfactory progress toward compliance under a schedule approved by the Department.
 2. The sewerage system possesses all appropriate discharge permits required by this Chapter. This requirement shall be waived if the purpose of the addition or extension is to comply with the provisions of this Chapter.

R18-9-805. Final approval of construction Repealed

- ~~A.~~ All of the following requirements shall be satisfactorily met before an Approval of Construction will be issued by the Department on a newly constructed sewerage system:
 1. A final inspection has been completed either:
 - a. by the Department; or
 - b. by a registered engineer, with the approval of the Department.

2. An operator, certified by the Department pursuant to A.A.C. R18-4-105, at a grade appropriate for that facility, is employed to operate the system, excluding septic-tank systems.
 3. An operation and maintenance manual is submitted to and approved by the Department for new sewerage treatment systems or substantial modifications thereto.
 4. Construction conforms to plans and specifications approved by the Department.
- ~~B. Operation of a newly constructed sewerage system shall not begin until an Approval of Construction is issued by the Department under subsection (A) of this Section.~~

R18-9-806. Minimum requirements for sewage systems Repealed

- ~~A. Sewage systems serving condominiums, mobile home parks, travel trailer parks, shopping centers and recreational vehicle parks may be designed using the requirements of the Uniform Plumbing Code (1982 Edition), incorporated by reference herein, and on file with the Office of the Secretary of State, excluding the water and sewer main separation requirements. Water and sewer main separations shall conform to R18-9-811.~~
- ~~B. For systems that treat, or which are designed to treat greater than 10,000 gallons/day, a standby power source shall be provided at all sewage treatment systems and/or pump stations where a temporary power failure could allow a discharge of raw or partially treated sewage. Standby power may be via a standby generator, two separate feeders from separate substations, a loop feeder on separate transformers from a common substation, or a high level alarm with portable generators. Standby power also shall be provided to any sewage treatment systems and/or pump stations, regardless of size, if a temporary power failure could allow a discharge into surface waters classified as "unique waters", pursuant to A.A.C. Title 18, Chapter 11, Articles 2 and 3.~~
- ~~C. The structures and electrical and mechanical equipment of sewage treatment systems and pump stations, on which original construction began on or after the effective date of these rules, shall be protected from physical damage from a 100-year flood. Flood protection shall be designed such that treatment works and pump stations will remain fully operational during a 25-year flood. Walls or berms of adequate size may be constructed where necessary to provide protection. Flood protection approval must be obtained from the appropriate flood control district before an Approval to Construct will be issued.~~
- ~~D. All treatment works with greater than 100,000 gallons/day capacity shall be provided with the necessary equipment to indicate, record and totalize the volume of wastewater being treated. Treatment plants with less than 100,000 gallons/day capacity are only required to indicate flow.~~

R18-9-807. Preliminary plans Repealed

~~Designing or consulting engineers should confer with the Department before proceeding with detailed designs of major waste treatment works. It is advisable to submit, for preliminary consideration, tentative plans containing a general description of the existing or proposed plant, works, or systems, or proposed changes therein.~~

R18-9-808. Operation Repealed

- ~~A. All sewage and industrial waste treatment works shall be operated at their highest practical efficiency at all times. If, after investigation, the Department determines that any treatment or disposal works is causing unsatisfactory conditions in the waters or stream course or on or under any land into which the effluent is discharged, or is otherwise interfering with the legitimate uses of such waters or lands or is creating a nuisance or a menace to public health, the owner shall make such changes in the plant or its operation as are necessary to produce satisfactory results. These changes shall be made within such time limits as are set by the Department.~~
- ~~B. If the Department determines that a sewerage system is not in compliance with the provisions of this Article and is creating an environmental nuisance pursuant to A.R.S. § 49-141, the Department shall order the sewerage system to discontinue or limit hookups of new service lines to the sewerage system until such time as the Department determines that the system has achieved compliance with the provisions of this Article and is no longer creating an environmental nuisance.~~

R18-9-809. Inspection Repealed

~~Inspections of sewage and industrial waste treatment works shall be made by personnel of the Department or its designated representative. Appropriate person or persons shall be notified of any unsatisfactory conditions with recommendations for correction.~~

R18-9-810. Cross-connections Repealed

~~No person shall install, permit to be installed, or maintain connections between any part of a disposal system and a potable water supply or a public water supply, in such manner that sewage or waste may find its way into, or otherwise contaminate, any potable or public water supply.~~

Arizona Administrative Register
Notices of Final Rulemaking

R18-9-811. Separation of water and sewer mains Repealed

- A.** ~~In order to protect public water systems from possible contamination, a water main shall not:~~
- ~~1. Infringe upon an area which is within six feet of either side of a sewer main and shall not be below, at the same level as, or less than two feet above the top of the sewer main, unless extra protection is provided. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip joint ductile iron pipe if joint restraint is provided or shall consist of encasing both the water and sewer mains in at least six inches of concrete.~~
 - ~~2. Under any circumstances, infringe upon an area which is within two feet of either side of or two feet below the sewer main.~~
- B.** ~~When unusual conditions such as, but not limited to, highway or bridge crossings prevent the water and sewer main separations required by subsection (A) above from being met, the Department will review and may approve, requests for authorization to use alternate construction techniques, materials and joints on a case-by-case basis.~~
- C.** ~~No water pipe shall pass through, or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be six feet, measured from the center of the manhole.~~
- D.** ~~The minimum separation between force mains or pressure sewers and water mains shall be two feet vertically and six feet horizontally under all conditions. Where a sewer force main crosses above, or less than six feet below, a water line, the sewer main shall be encased in at least six inches of concrete for 10 feet on either side of the water main.~~
- E.** ~~Sewer mains (gravity, pressure, force) shall be kept at a minimum of 50 feet from drinking water wells, unless the following conditions are met:~~
- ~~1. Water main pipe, pressure tested in place to 50 psi without excessive leakage, may be used for gravity sewers at distances greater than 20 feet from drinking water wells.~~
 - ~~2. Water main pipe, pressure tested in place to 150 psi without excessive leakage, may be used for pressure sewers and force mains at distances greater than 20 feet from drinking water wells.~~
- F.** ~~No septic tank/disposal field system shall be constructed within 100 feet of a drinking water well.~~
- G.** ~~All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. These separation requirements do not apply to building plumbing or individual house service connections.~~

R18-9-812. Tests and records Repealed

~~The owner or operator of each waste disposal plant shall have equipment for and make such tests and keep such records as are necessary to assure efficient operation of the treatment works. Records of plant operation shall be transmitted to the Department on forms approved by the Department and as it may specify.~~

R18-9-813. Approval required Repealed

~~No sewage or industrial waste treatment effluents shall be used for irrigation purposes without written approval from the Department. R9-20-400 series rules govern reuse of waste treatment effluents. Direct disposal of sewage or industrial waste treatment effluents for irrigation of crops to be used for human consumption or for watering of cattle is prohibited.~~

R18-9-814. Limitations to discharges to wells Repealed

~~Unless permitted by the Department under Article 3, Chapter 2, Title 49 of the Arizona Revised Statutes and Article 1 of this Chapter, no privy contents, drainage from a building, or the effluent from any waste treatment device shall be discharged into any well, as defined in A.R.S. § 49-201.32.~~

R18-9-815. Discharge to creviced formation prohibited Repealed

~~No privy contents, drainage from a building, or the effluent from any waste treatment device shall be discharged into any crevice, sink hole, or other opening, either natural or artificial, or in a rock formation which will or may permit the pollution or contamination of ground water.~~

R18-9-816. Discharge of sewage from water craft prohibited Repealed

~~No boat, houseboat, or water craft of any type, shall be equipped with a marine toilet so constructed and operated as to discharge any sewage directly or indirectly into the waters of the state, nor shall any container of sewage be placed, left, discharged, or caused to be placed, left, or discharged in or near any waters of the state by any person at any time.~~

R18-9-817. Acceptable toilets for water craft Repealed

~~Water craft with marine toilets so constructed as to permit sewage to be discharged directly into the waters of the state shall be locked and sealed to prevent usage. Chemical or other type marine toilets with approved type storage containers shall be permitted where adequate, dockside disposal facilities are provided.~~

R18-9-818. Dockside facilities Repealed

- A.** ~~Every dock servicing water craft shall have, conveniently located thereto, approved type toilet facilities for men and for women.~~
- B.** ~~Every dock servicing water craft equipped with toilets shall provide approved sanitary facilities at dockside for the disposal of sewage from water craft toilets.~~

Notices of Final Rulemaking

R18-9-819. ~~Violations~~ Repealed

~~Any person who violates any provision of this Article is subject to the enforcement provisions of A.R.S. § 49-142 or as otherwise may be provided by law.~~